Hazardous Manual Tasks

Overview

Many jobs will have some manual handling component. The degree of manual handling will depend upon the nature of the job and the resources available to eliminate or control the hazardous manual tasks. The Work Health and Safety Regulation 2011 (NSW) (WHS Regulation) requires risks from hazardous manual tasks be eliminated from work, so far as reasonably practicable. Where these risks cannot be eliminated, then the risks should be minimised, so far as reasonably practicable.

Hazardous manual tasks cover a broad range of activities. The WHS Regulation define hazardous manual tasks as being tasks that require a person to “lift, lower, push, pull, carry or otherwise move, hold or restrain any person, animal or thing that involves 1 or more of the following;

- Repetitive or sustained force
- High or sudden force
- Repetitive movement
- Sustained or awkward posture
- Exposure to vibration"

The factors identified above have been recognised to place stress on the body and are linked to the incidence of musculoskeletal disorders (MSD). A MSD is an injury or disease of the musculoskeletal system which can develop suddenly or over a prolonged period. A MSD may include injuries such as sprains, strains, damage or degeneration of muscles, ligaments, tendons, joints, vascular or nervous tissues, bones and other soft tissue structures. Such injuries can occur through gradual wear and tear on the soft tissues (muscles, tendons, ligaments, etc) through repeated or continual use and/or through sudden damage from an unexpected strain or movement. Injuries resulting from entrapment, cutting or crushing actions, such as fractures and dislocations, are not considered MSD.

As the prevalence and cost of MSD can be high, WSU aims to reduce the incidence of MSD and comply with the WHS Regulation by managing the risks associated with hazardous manual tasks. This is undertaken through a risk management process and further information about risk management can be found here (link). To do this WSU will, so far as reasonably practicable;

- Identify hazardous manual tasks,
- Eliminate the risks from the hazardous manual tasks,
- Implement control measures in accordance with the hierarchy of controls to minimise the risks from hazardous manual tasks where elimination is not practicable,
- Maintain, monitor and review the risk control measures.

Consultation with the worker performing and affected by the hazardous manual tasks is required at all steps in the process described above. Consultation with workers should occur through the developed WHS Consultation methods available to the affected Work Group. Further information about WHS consultation can be found here (link). Sometimes consultation with other business operators (PCBUs) working at WSU may also be required to effectively manage the risks of hazardous manual tasks.

The following procedures have been developed to assist in managing the risks of hazardous manual tasks at WSU. A summary of the procedures can be seen in the Hazardous Manual Task Risk Assessment Process (? Link). As indicated above, these procedures also require consultation with affected workers.

1. Identifying Hazardous Manual Tasks

Hazardous manual tasks should be identified through a range of means including;

a. Consultation with workers – it can be beneficial to observe workers and seek information from them about tasks that may cause MSD and may be a potential hazard. This may include tasks that are difficult to perform, cause fatigue, involve awkward postures or positions or result in discomfort. A survey or questionnaire for workers can be used to assist this process.
b. Review available information and identify trends – reported injuries, incidents, inspection reports and workers compensation claims provide information about activities that may involve hazardous manual tasks. Particular jobs or trends may be apparent that indicate the need for further investigation about the incidence of hazardous manual tasks in some areas or for some jobs.

c. Observation – observing or inspecting work areas can assist in examining how work is completed and provide information on the posture and movements that may be linked to a MSD.

d. Review – Evaluation of the characteristics of a task or environment should be undertaken when changes to activities or processes are being introduced or new tools, machinery or equipment is being considered. This evaluation should consider whether hazardous manual tasks are being introduced with these changes.

A Hazardous Manual Task Identification Worksheet (?link) can be used to review a task and document the identification of Hazardous Manual Tasks.

2. Characteristics of Hazardous Manual Tasks

The following characteristics should be considered when identifying a hazardous manual task. The Hazardous Manual Task Assessment Forms (link) will prompt you to look for these characteristics in the task/s being reviewed.


a. **Force** – this is the amount of muscular effort required to perform the task. Forceful exertions can result in overload to soft tissues associated with MSD. The types of force to consider are;
   - Repetitive force – involving force applied repeatedly over time
   - Sustained force – involving the application of continual force for a period of time
   - High force – where heavy loads or poor positions may be involved in the task
   - Sudden force – where jerky or unexpected force may be needed to manage a task

b. **Movement** – this relates to the change in the position of a body part. Movements to consider include;
   - Repetitive movement – where a body part repeatedly uses the same motion over a period of time

c. **Posture** – this relates to the position of the body while the task is completed. Postures to consider are;
   - Sustained postures – where a body part is kept in one position for a prolonged period
   - Awkward postures – where a body part is held in an uncomfortable or unnatural position including where the joint is at an extreme angle, or where bending, twisting, asymmetrical or unbalances postures may be required

d. **Vibration** – exposure to vibration can impact blood supply, nerve function and other soft tissues. Common forms of vibration include;
   - Whole body vibration – where equipment, machinery or vehicles may transmit vibration to the whole body through the supporting surfaces.
   - Hand-arm vibration – where the hand or arm have vibration transferred through tools or equipment and the resulting vibration can result in repetitive shock loads to the upper limbs.

3. Assessing the Risks

Where you have identified a hazardous manual task in Part A of the Hazardous Manual Task Assessment Forms, then Part B (Risk Assessment Worksheet) should be completed. The aim of the risk assessment is to examine the hazardous manual task in more detail to assess what aspects of the task may cause risk of MSD.
The risk assessment should be completed in consultation with the workers who are involved in or affected by the hazardous manual task. All steps of the task may need to be examined to ensure a comprehensive assessment. Specialist advice or assistance may be required for a full risk assessment and you can contact the Western Sydney University WHS Unit (link) should this be needed.

The Risk Assessment Worksheet provides information and examples of the risk factors to be assessed. The Risk Assessment Worksheet can be used to record the risk assessment findings.

Factors to consider include;

a. Does the task involve repetitive movement? As a guide repetitive movement or force is performed more than twice a minute.
b. Does the task involve sustained or awkward postures? As a guide sustained postures or forces are held for 30 seconds or more.
c. Does the task involve repetitive or sustained forces? The Risk Assessment Worksheet provides specific examples of postures or movements to consider.
d. Is the task performed for a long duration? As a guide long duration includes where the task is performed for more than 2 hours over a whole shift or continually for more than 30 minutes duration.
e. Is sudden or high force involved in the task? The Risk Assessment Worksheet provides specific examples of high/sudden force tasks to consider.
f. Does the task involve vibration? The Risk Assessment Worksheet provides specific examples of vibration exposure through vehicles, tools or machinery to consider.

Sources of risk may include;

a. Work area design and layout – consider the position and layout of furniture, fittings or equipment in the work area and whether these may impose awkward postures.
b. The nature, size, weight or number of things handled – impacts may include the size/shape/weight of loads, the handling points of the load, the stability of the load, the behaviour of the load (people/animals). Tools and equipment should be examined to determine if they are causing any of the identified risk factors described above.
c. Systems of work – the organisation of the work can impact on the performance of the task. Consider the pace and time constraints of the work, availability of resources and other arrangements that can impact on the demands and control of the work task.
d. Environment – temperature (hot or cold environments), humidity, surface stability (slippery, wet or uneven surfaces), obstructions, lighting and outdoor or indoor conditions should be considered in examining the sources of risk from a hazardous manual task.

4. Controlling the Risks

Effective risk control will require that you know what risk factors are present, where they occur and why they are present (sources of risk).

Risk control measures are ranked in terms of the level of protection and reliability from highest to lowest. This is known as the Hierarchy of Controls and the WHS regulation require that the Hierarchy of Controls is applied when selecting and implementing a risk control measure that most effectively eliminates or minimises a risk. More than one control may be required.

The Hierarchy of Controls includes;

1. Eliminate the risk
2. Minimise the risk through the a) substitution, b) isolation or c) engineering controls
3. Administrative controls
4. Personal Protective Equipment

The effectiveness of the controls reduces when moving down through this hierarchy.
Consider the following in examining effective risk controls. Selection of risk controls needs to be undertaken in consultation with the worker performing and affected by the hazardous manual tasks.

1. Purchasing to minimise risk – consider the design, space requirements, physical characteristics and specifications (including vibration) of plant, equipment, tools, machinery, vehicles and containers prior to purchase. This may allow a hazardous manual task to be eliminated or minimised prior to its use in the workplace.

2. Changing the work design or layout – changes to the workstation design, the heights, postures and positions used when working at as well as the space available can all be varied to control the identified risks.

3. Changing the nature, size, weight or number of items handled can include varying the size, shape and handling points of loads, the tools and equipment available or the position of the work. Tools and equipment also need to be inspected and maintained to ensure correct operation.

4. Mechanical aids – equipment and tools such as conveyers, cranes, hoists, turntables, mechanical devices may be implemented to minimise risks. Mechanical aids need to suit the load and function and implementation should include providing workers with information, instruction and supervision on the use of the mechanical aid.

5. The Code of Practice provides specific suggestions for activities where handling or people or animals is required. These recommendations are contained here (Link) and are particularly relevant to workers and students in Nursing, Allied Health, Agriculture, Science and Laboratory environments where such hazardous manual tasks may be required.

6. Changing systems of work – organising the work to minimise the duration or number of handlings of material should be considered. Changes in controls of the pace of the work, frequency of breaks or the ability to rotate tasks are possible areas for risk minimisation.

7. Changing the work environment – changes to the conditions where the work is conducted may eliminate or minimise risks such as changes to temperature, floor surfaces, lighting, vibration or other conditions in the work environment.

8. Administrative Controls – can include job rotation, rest breaks, implementing team handling practices or information/training/instructions which may all be used to minimise the risk of hazardous manual tasks. Controls at this level may be used in conjunction with controls at a higher level.

9. Personal Protective Equipment – equipment is selected to assist in minimising a risk. This is the lowest level of control offered and control measures from further up the hierarchy should be considered before selecting a control at this level.

5. Implementing Controls

To implement effective risk controls, a range of options may be needed including short term and long term solutions. Workers should be involved in the selection and planning of implementation of risk controls including any trials that may be possible.

Effective risk controls should be implemented with training, instructions, information and supervision provided to workers using and affected by the risk control measures. The training and information should include safe operation, use and maintenance of equipment (where relevant) as well as how to identify and report on problems or issues with the control measure/s.

Implemented control measures should be reviewed and revised, if necessary and this should be planned prior to implementation. Review of risk control measures should be conducted through following the risk management (risk identification and risk assessment) steps described above.

Risk control measures also need to be regularly inspected and maintained to ensure effective operation.

6. Hazardous Manual Task Forms

The following have been provided to assist in risk identification, assessment and control of hazardous manual tasks.

Hazardous Manual Task Risk Assessment Process
Hazardous Manual Task Identification Worksheet
Hazardous Manual Task Risk Assessment Worksheet
Hazardous Manual Task Risk Control Worksheet

References