Hazardous Manual Tasks

INTRODUCTION

Most jobs involve carrying out some type of manual task using the body to move or hold an object, people or animals. Manual tasks cover a wide range of activities including workshop activities, field research / work, driving and office / computer work.
Some manual tasks, if not appropriately managed, can be hazardous and may cause musculoskeletal injuries or disorders. Musculoskeletal disorders are the most common workplace injuries across Australia.

COMPLIANCE

This is a compliance requirement under the:

Work Health and Safety (National Uniform Legislation) Act 2016
Work Health and Safety (National Uniform Legislation) Regulations 2017
Hazardous Manual Tasks Code of Practice – WorkSafe Australia 2013
How to Manage Work Health and Safety Risks Code of Practice 2011

INTENT

The purpose of this procedure is to provide a framework to facilitate the legislative requirement of a "safe place of work" through the provision of processes to facilitate the identification and mitigation of potential health risks attributable to hazardous manual tasks.

RELEVANT DEFINITIONS

In the context of this document

Musculoskeletal disorder (MSD) disorder (MSD) means an injury to, or a disease of, the musculoskeletal system, whether occurring suddenly (damage caused by strenuous activity, or unexpected movements) or over time (gradual wear and tear caused by repeated or continuous use of the same body parts, including static body positions), or a combination of these mechanisms, for example, body tissue that has been weakened by cumulative damage may be vulnerable to sudden injury by lower forces.

PROCEDURES

Responsibilities

VC, PVC's

- Ensure compliance and effective implementation of the requirements of this Procedure
- Provide adequate resources for the effective implementation of this Procedure
- Incorporate manual task risks, and their controls into their risk processes and registers

Line Managers / Supervisors

- Adequately identify, assess and control the manual task risks associated with their scope of work and evaluate controls to ensure effectiveness
- Provide appropriate resources to address risks identified, and ensure compliance to this procedure

- Conduct relevant workplace inspections and audits
- Ensure that the development of pre-task risk assessments includes consideration of potential health and safety risks, both short and long term

Safety, Emergency and Wellbeing
- Provide advice and support to CDU line management as required

All Employees
- Participate in occupational health and safety requirements e.g. adhere to policies and procedures, audits and inspections, training requirements
- Consider health and safety hazards in pre-task risk assessments
- Report any workplace health and safety concerns to their line manager / supervisor

Training and Competence Requirements

CDU employees should be made aware of role specific hazardous manual tasks, the use of equipment or work procedures and instructions in the workplace through inductions and role specific training as required.

Hazardous Manual Tasks

Manual tasks cover a wide range of activities including workshop activities, grounds maintenance, driving, workshop activities, office / computer work and lecturing. Some manual tasks can be hazardous and may cause musculoskeletal disorders (MSD), if not appropriately managed.

MSD may include conditions such as:
- sprains and strains of muscles, ligaments and tendons
- back injuries, including damage to the muscles, tendons, ligaments, spinal discs, nerves, joints and bones
- joint and bone injuries or degeneration, including injuries to the shoulder, elbow, wrist, hip, knee, ankle, hands and feet
- nerve injuries or compression (e.g. carpal tunnel syndrome)
- muscular and vascular disorders as a result of hand-arm vibration
- soft tissue hernias
- chronic pain

Hazardous Manual Task Characteristics

Tasks involving one or more of the following:
- repetitive (>2 /minute) or sustained force e.g. lifting and stacking goods, holding down a trigger to operate a tool
- high or sudden force e.g. lifting heavy and or awkward object, restraining person or animal, handling unstable load, person or animal, impact power tools
- repetitive movement e.g. keyboard or assembling tasks
- sustained or awkward posture e.g. supporting object whilst being fixed in place, working with arms overhead, bending over task or around bulky items
- exposure to vibration e.g. operating mobile plant, operating vehicle over rough terrain, operating vibrating power tools
- tasks that involve more than one of these risk factors will increase the risk of MSD significantly

Note

- working in hot, humid environments / handling of wet or damp objects may require increased force / increased perspiration may cause loads to slip adding sudden or unexpected forces
- low or high levels of lighting, glare and reflection may lead to awkward or sustained postures to either improve vision or avoid glare
- slippery floors, uneven or unsuitable surfaces may increase exertion required to perform tasks due difficulty maintaining stability or overcoming friction

Risk Assessment

In conducting a risk assessment for manual tasks that have been identified as potentially hazardous, consider sources of risk including:

- work design and layout
- the nature, size, weight and number of things handled in performing the manual task
- systems of work (includes tools that are unsuitable for the task, work methods / processes, time constraints, skill mix, etc.)
- postures, movements and forces that may pose a risk
- the environment in which the task is performed

Note – Workers will have differing physical and psychological characteristics and these individual factors may increase the risk e.g. skills and experience, physical characteristics, un-accustomed work, mismatch between worker and task

Things to look out for include:

- any changes that have resulted in new manual tasks or a changed environment
- tasks involving tools, machinery or equipment that do not work properly or are difficult to use
- if workers have made improvisations to tasks to avoid discomfort

Workstation Design

Workstation

Workstations should be designed to allow workers to work in an upright position, shoulders in a natural position (not elevated) and upper arms close to the trunk most of the time without large reaches to perform the task/s. Work surfaces should be adjustable to suit a range of workers and the tasks they perform. Where possible, place items used in manual tasks so they are:

- in front of the worker
- between waist and shoulder height
- close to the midline of workers and orientated towards the worker
- on the worker's preferred side
- positioned within comfortable reaching distance
- positioned to avoid double handling and to avoid moving loads manually over long distances

Working Position

Workers should not remain in a seated, standing or otherwise static posture for prolonged periods. Design the workstation to provide opportunities for workers performing seated or standing tasks to vary their postures and movements.

Work Space

Work areas should have enough space to accommodate the number of workers and other people involved in the task/s, any equipment that might be required and space to operate the equipment safely.

Appendix A provides an overview of the risk management process for manual tasks.

Appendix B provides a Hazardous Manual Tasks Identification Worksheet to assist in determining hazardous components of potentially hazardous tasks.

Controlling the Risk

In determining the most appropriate controls, the hierarchy of controls should be utilised, with the control/s that most effectively eliminates or minimises the risk in the circumstances being implemented (as low as reasonably practicably).

The most effective control is eliminating the hazardous manual task and its associated risk. It is usually more effective to consider this in the design and planning stages of items and processes. Where elimination is not reasonably practicable, minimisation through substitution with a lesser risk scenario, e.g. isolating the hazard or implementation of engineering controls to mitigate risk so far as reasonably practicable, should be considered.
Where there is remaining risk, this should be further mitigated as far as reasonably practicable with administrative controls, followed by suitable personal protective equipment (PPE). These last two controls are the least effective when used on their own as they rely on individual human behaviour and supervision.

Control measures should be aimed at eliminating or minimising the

- frequency of movements
- magnitude and duration of movements
- forces and postures

by changing the source of the risk

- work area
- tool
- load
- environment
- method of handling
- way work is organised

Examples
Elimination

- Automate task / remote controls
- Deliver goods directly to point of use / eliminate double handling
- Purchasing policy and procedures (brief re specific requirements in design phase, ensure tools and equipment meet Australian Standards (vibration, noise, etc), consider ergonomic design of tools (grip, balance, suitable either hand use, minimise muscular effort) and equipment, job fit of tools and equipment to person and task)

Substitution

- Replace heavy loads with lighter ones - purchase products in smaller loads for manual handling or larger loads for mechanical handling e.g. order 5 litre containers instead of 20 litre
- Replace hand tools with power tools to reduce forces required

- Purchasing policy and procedures (liaise about handling, storage and delivery options)

Isolation

- Isolate vibrating machinery e.g. independent seating on mobile plant

Engineering

- Mechanical aids (fork and pallet lifts, lifting hoists, turntables, winches, hydraulic pumps, suction pads, grip devices, vacuum / magnet assisted lifters, suspend / support / counter balance heavy tools where used repetitively in same place, trigger grips where grip to be sustained for more than 30 seconds, hold work piece in place with jigs / fixtures, reduce impact or kick back reactions)
    - Mechanical aids should be easy to use, adjustable to range of users, suit the task and environment
    - Employees should be trained in their use
- Height adjustable workstations
- Design of workload and pace of work to accommodate physical demands, minimise multiple handling and improve flow of work (consider differing physical capabilities of individuals)
- Preventative maintenance (regular inspections and maintenance in accordance with manufacturer specifications as a minimum, pre-start checks as applicable, replacement schedules)

Administrative

- Rotate workers between tasks, allocate rest breaks (work-rest cycles) as applicable (repetitive awkward or sustained postures, high forces, vibration, high concentration requirements, etc.)
- Allow recovery time (shift lengths, rostered days off, overtime, peak period staffing)
- Information, training and instruction - in control measures, use of tools, equipment, mechanical aids, team handling, etc.
- Specific training in the handling of people or animals as appropriate
- Housekeeping (clean, tidy work areas, free of obstacles and trip hazards, etc.)

Personal Protective Equipment (PPE)

- Gloves as appropriate to manual handling task (heat, sharp, etc.)
- Anti-fatigue mats on hard floors

Appendix C provides a Hazardous Manual Risk Assessment Worksheet which facilitates determining the source of the hazardous component of tasks and possible corrective actions.

Implement and Review of Controls

Short term interim controls may be put in place whilst a long term solution is being developed or sourced. To ensure the solutions implemented are effective you should:

- Allow a trial period across multiple workers
- Review after an initial period of trial / testing time and modify as required (some modifications may require the use of different body parts and cause initial discomfort which may settle as individuals become conditioned to using different muscles)
- Develop work procedures / instructions to ensure the controls are well understood and uniformly applied by all workers
- Provide training as required on controls and procedures / instructions
- Ensure regular scheduled maintenance of any equipment as required
- Review at regular intervals to ensure continued effectiveness or facilitate revision as required.

ESSENTIAL SUPPORTING INFORMATION

Internal

- Occupational Health Procedure

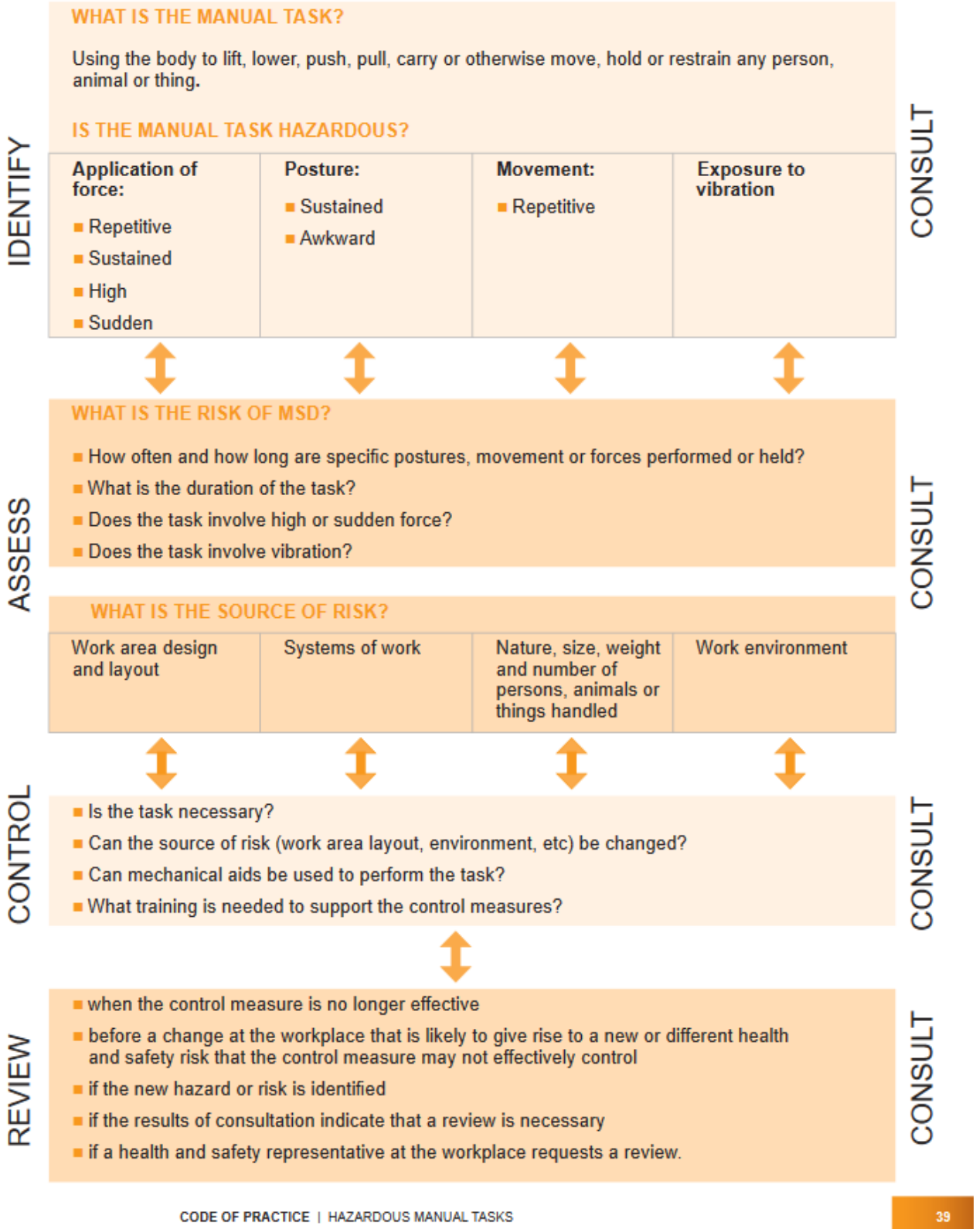
External

- Hazardous Manual Tasks Code of Practice – WorkSafe Australia 2013

Document History and Version Control			
Last amendment:	Oct 2018	**Next Review:**	Oct 2021
Sponsor:	SEW Manager		
Contact Officer:	SEW Manager		

Version	Date Approved	Approved by	Brief Description
1.00	Oct 2018	Meredith Parry	Creation of original document and upload to CDU website. Separate Worksheets created as per appendices.
Version	Date	Title	Click or tap here to enter text.
Version	Date	Title	Click or tap here to enter text.

APPENDIX A – RISK MANAGEMENT PROCESS FOR MANUAL TASKS



APPENDIX B – HAZARDOUS MANUAL TASK IDENTIFICATION WORKSHEET

Work Area	
Participants	

Task *Does the task have any characteristics of a hazardous manual task? (tick those that apply)*	**Repetitive or sustained force**	**High or sudden force**	**Sustained or awkward postures**	**Repetitive movement**	**Exposure to vibration**	**Discomfort Reported**

APPENDIX C – HAZARDOUS MANUAL TASKS RISK ASSESSMENT WORKSHEET

Work Area					
Location of Task					
Description of Task					
Participants					
Date of Assessment		**New Task / Change in Task / Existing Task / Report of discomfort / Injury** *(circle)*			
STEP 1 - Does the task involve repetitive or sustained movements, postures or forces? *Repetitive means the movement or force is performed more than twice a minute* *Sustained means the posture or force is held for more than 30 seconds at a time*					
Postures or Movements	*Tick Yes each time posture/ movement is observed*	**Yes**	**This action happens when …..**	**Because … (describe why)** *this is the source of the risk*	**Where ticked – what are possible controls to reduce risk**
BACK					
Bending or twisting e.g. more than 20 degrees	Forwards Sideways Twisting				
Bending e.g. more than 5 degrees	Backwards				
NECK OR HEAD					
Bending or twisting e.g. more than 20 degrees	Forwards Sideways Twisting				
Bending e.g. more than 5 degrees	Backwards				
ARMS / HANDS					
Working with one or both hands above shoulder height					
Reaching forwards or sideways more than 30cm from the body					
Reaching behind the body					
Excessive bending of the wrist					
Twisting, turning grabbing, picking or wringing actions with the fingers, hands or arms					

LEGS				
Squatting, kneeling, crawling, lying, semi-lying or jumping				
Standing with most of the body's weight on one leg				
VERY FAST MOVEMENTS				
Lifting or lowering				
Carrying with one hand or one side of the body				
Exerting force with one hand or one side of the body				
Pushing, pulling or dragging				
Very fast actions				
Working with the fingers close together or wide apart				
Applying uneven, fast or jerky forces				
Holding, supporting or restraining anything (including a person, animal or tool)				

STEP 2 - Does the task involve a long duration?		
Duration	**Yes**	**Comments**
More than 2 hours over a whole shift		
Continually for more than 30 minutes at a time		
If you tick yes than the task is a risk and must be controlled		

STEP 3 - Does the task involve high or sudden force?				
Forces	**Yes** *Tick ea time posture/ movement is observed*	**This action happens when …..**	**Because … (describe why)** *this is the source of the risk*	**Where ticked – what are possible controls to reduce risk**
Lifting, lowering or carrying heavy loads				
Throwing or catching				
Hitting or kicking or jumping				

Applying a sudden or unexpected force including: • handling a live person or animal or • applying uneven, fast or jerky forces during lifting, carrying, pushing or pulling or • Pushing or pulling objects that are hard move or stop e.g. a trolley				
Exerting force while in a bent, twisted or awkward posture including: • supporting items with hands are above shoulder height or • moving items when legs are in an awkward posture, working with fingers pinched together or held wide apart • Using a finger grip or pinch grip or an open handed grip				
Exerting a force with the non-preferred hand				
Needing to use two hands to operate a tool designed for one hand				
The task can only be done for short periods of time				
Two or more people need to be assigned to handle a heavy, awkward or bulky load				
Workers report pain or significant discomfort during or after the task				
Stronger workers assigned to do the task				
Employees say the task is physically very strenuous or difficult to do				
Workers think the task should be done by more than one person, or				

seek help to do the task as it requires high force				
STEP 4 - Is there a hand or whole body vibration?				
Driving for long periods				
Driving on rough roads				
Frequent use of hand powered tools or use for long periods				
Using high grip forces or awkward postures when using power tools				
Use of machines or tools where the manufacturer's handbook warns of vibration				
Workers being jolted or continuously shaken				
Use of a vehicle or tool not suitable for the environment or task				

STEP 5 - Is there a risk?	
Did you answer yes in step 1 and step 2?	The task is a risk. Risk control is required.
Did you answer yes in step 3?	The task is a risk. Risk control is required.
Did you answer yes in step 4?	This task requires further investigation-refer to Vibration Code of Practice

To aid prioritisation of timing and resourcing risk controls you may also need to consider:

- Number of ticks or risk factors
- Additional factors such as injuries associated with the task

These items capture degree and likelihood of harm. You will also need to consider the availability and suitability of risk controls for the task