HRP08: Hazardous Manual Tasks and Workplace Ergonomics

Section 1 - Purpose and Scope

(1) This Procedure aims to ensure Southern Cross University (SCU) management, employees, students, and others know the risks associated with hazardous manual tasks in the workplace and relevant management strategies for the risk mitigation process.

(2) All employees, students, and others must follow this Procedure.

(3) This Procedure applies to all SCU Work Units and sites.

Section 2 - Definitions

Hierarchy of Controls	A system for controlling risks in the workplace ranked from highest to lowest protection.
Manual Task	A task that requires a person to use their body to exert force to handle, support or restrain any object includes repetitive actions, sustained postures and/or exposure to vibration.
Musculoskeletal Disorder (MSD)	An injury or disease of the musculoskeletal system occurs suddenly or over time. It does not include an injury caused by crushing, entrapment or cutting resulting from the mechanical operation of plant. An MSD may include: 1. Sprains and strains of muscles, ligaments and tendons. 2. Back injuries, including damage to the muscles, tendons, ligaments, spinal discs, nerves, joints and bones. 3. Joint and bone injuries or degeneration, including injuries to the shoulder, elbow, wrist, hip, knee, ankle, hands and feet. 4. Nerve injuries or compression, for example, carpal tunnel syndrome. 5. Muscular and vascular disorders as a result of hand-arm vibration. 6. Soft tissue injuries, including hernias. 7. Chronic pain. An MSD can occur in two ways: 1. Radial wear and tear to joints, ligaments, muscles and inter-vertebral discs caused by repeated or continuous use of the same body parts, including static body positions. 2. Sudden damage caused by strenuous activity, or unexpected movements such as when loads being handled move or change position suddenly. Injuries can also occur due to a combination of the above mechanisms.

Section 3 - General Principles

(4) Hazardous manual tasks must be identified and assessed to implement effective risk control measures.

Consultation and Participation

(5) SCU is committed to consulting with employees to ensure their involvement in identifying, assessing, and managing hazardous manual tasks and workplace ergonomics as outlined in WHSMP07: WHS Consultation, Communication and Participation Procedure.

Risk Management Process

(6) SCU will follow the risk management process outlined in WHSMP02: Hazard Identification, Risk and Opportunity Management Procedure, the Hazardous Manual Tasks Code of Practice (NSW) and Hazardous Manual Tasks Code of Practice (Qld), which includes:

a. Hazard identification.
b. Risk assessment.
c. Risk Control.
d. Review of control measures.

(7) To assess the risk of a hazardous manual task, employees must use WHSMP02 - FOR - 07 - Hazardous Manual Task Risk Assessment Tool.

Musculoskeletal Disorder (MSD)

(8) Some manual tasks are hazardous and may cause musculoskeletal disorders (MSD).

What is a Hazardous Manual Task

(9) A hazardous manual task is a task requiring a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any person, animal or thing involving one or more of the following:

a. Repetitive or sustained force.
b. High or sudden force.
c. Repetitive movements.
d. Sustained or awkward postures.
e. Exposure to vibration.

Identification of Hazardous Manual Tasks

(10) Hazardous manual tasks can be identified through:

a. Reviewing position descriptions.
b. Consulting with workers and students involved in manual tasks.
c. Analysing WHS and workers' compensation data.
d. Observing workplace equipment and workflows.
e. Conducting workplace inspections.
f. Investigating incidents related to manual tasks.

Characteristics of Hazardous Manual Tasks

Force

(11) The term ‘force’ is used here to describe 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.

(12) Repetitive force—using force repeatedly over a period of time. Examples of repetitive force include:

a. Lifting and stacking goods onto a pallet.
b. Repetitively pressing components with the thumbs or other parts of the hand to assemble an item.
c. Cleaning and preparing surgical equipment.
d. Prolonged application of therapeutic massage treatments.

(13) Sustained force—occurs when force is applied continually over a period of time. Examples of sustained force include:

a. Pushing or pulling a trolley.
b. Holding down a trigger to operate a power tool.
c. Supporting a plaster sheet while fixing it to a ceiling.
d. Carrying objects over long distances.
e. Supporting, positioning or stabilising a patient’s limb during surgery or when applying splinting or casting material.

(14) It may be from the back, arm or leg muscles or by the hands and fingers. High force occurs in any task that:

a. A worker describes as very demanding physically.
b. A worker needs help to complete the task because a greater force is required.
c. It requires a stronger person or two people to complete it.

(15) Examples of high force include:

a. Lifting, lowering or carrying a heavy object.
b. Lifting, lowering or carrying an object that cannot be positioned close to the body.
c. Pushing or pulling an object that is hard to move or stop.
d. Applying uneven, fast or jerky forces during lifting, carrying, pushing or pulling.
e. Applying sudden or unexpected forces.
f. Restraining a person or animal.
g. Using a finger-grip, a pinch-grip or an open-handed grip to handle a heavy or large load.
h. Operating hand tools with tight squeeze grips.
i. Needing to use two hands to operate a tool.
j. Gripping small instruments with high force.

(16) Sudden force—jerky or unexpected movements while handling an item or load. These movements are particularly hazardous because the body must suddenly adapt to the changing force. Tasks where force is applied suddenly and with speed also generate high force. Examples of sudden force include:

a. Impact recoil of a large nail gun.
b. Throwing or catching objects.

c. Cutting reinforcement steel with large bolt cutters.
d. Carrying an unbalanced or unstable load, such as bagged stock feed pellets, that suddenly moves.
e. Handling frightened or resistant animals.
f. Handling patients who suddenly resist or no longer assist during the handling procedure.

(17) Examples of repetitive movement include:

a. Painting.
b. Lifting goods from a conveyor belt and packing them in a carton.
c. Typing and other keyboard tasks.
d. Repeatedly reaching for and assembling components in electronics manufacturing.
e. Using a socket and ratchet or spanner to unscrew long bolts.

Posture

(18) An ideal posture is one where the body is in a neutral position with the following:

a. Trunk and head upright and forward-facing.
b. Arms by the side of the body.
c. Forearms either hanging straight or at right angles to the upper arm.
d. Hands in the handshake position.

(19) Postures that are both awkward and sustained are particularly hazardous. Note: no one posture is suitable for all tasks or positions. Examples of sustained posture include:

a. Supporting plasterboard sheeting while it is nailed into place.
b. Continually standing with weight mainly on one leg while operating a power press with foot pedal controls.
c. Prolonged sitting at a workstation.

(20) Awkward posture — where any part of the body is in an uncomfortable or unnatural position, e.g.:

a. Unbalanced or asymmetrical postures.
b. Postures requiring extreme joint angles or bending and twisting.

(21) Examples of awkward posture include:

a. Squatting while servicing plant or a vehicle.
b. Working with arms overhead.
c. Bending over a desk or table.
d. Using a hand tool that causes the wrist to be bent to the side.
e. Kneeling while trowelling concrete or laying carpet.
f. Bending the neck or back to the side to see around bulky items pushed on a trolley.

(22) This may result in lower back pain, degeneration of the lumbar vertebrae and disc herniation. Examples of whole-body vibration include:

a. Operating mobile plant such as heavy earthmoving machinery.
b. Driving a vehicle over rough terrain.

(23) Hand-arm vibration 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. Examples of hand-arm vibration include:

a. Using impact wrenches, chainsaws, jackhammers, grinders, drills or vibrating compacting plates.
b. Using needle guns in de-rusting metal.

Assessing the Risk of Hazardous Manual Tasks

(24) If the risk is well known and controls are understood, it should be documented in Safe Work Procedures (SWPs). A risk assessment must be conducted using WHSMP02 – FOR—07—Hazardous Manual Task Risk Assessment Tool for unknown or uncertain risks.

(25) The risk assessment will determine:

a. Which postures, movements, and forces pose a risk.
b. The points during the task when they pose a risk.
c. Why do these risks occur.
d. What needs to be fixed.

(26) Factors to consider in the risk assessment:

a. Posture and movement of the worker.
b. Forces exerted by and on the worker.
c. Speed of movements.
d. Exposure to vibration.
e. Duration and frequency of the task.

(27) Sources of risk may include:

a. Layout or design of the work area.
b. Work environment conditions (temperature, lighting, obstructions).
c. Nature, size, weight, or number of objects handled.
d. Work organisation and systems.
e. Physical characteristics of the worker.

Controlling the Risks

(28) Aim to eliminate hazardous manual tasks and associated risks. If elimination is not feasible, controls must be implemented to minimise the risks. Control measures should focus on reducing the frequency, magnitude, and duration of hazardous movements, forces, and postures. Refer to Property Services Safe Work Procedure – Manual Handling for more information.

(29) The hierarchy of controls should be used to determine appropriate measures:

a. Elimination.
b. Automate tasks.
c. Deliver goods directly to the point of use.

d. Substitution.
e. Replace heavy items with lighter alternatives.
f. Use smaller quantities to reduce handling weight.
g. Replace manual tools with power tools.
h. Isolation.
i. Isolate vibrating machinery from users.
j. Engineering.
k. Use mechanical lifting aids.
l. Use adjustable workstations.
m. Administrative.
n. Rotate workers between tasks .
o. Engage additional employees as needed.
p. Train employees on safe manual task practices.
q. Personal Protective Equipment (PPE).
r. Use appropriate PPE such as gloves, shoes, and safety glasses.

(30) Specific training should be provided for roles requiring awareness of hazardous manual tasks, including:

a. Manual task risk management.
b. Specific task risks and control measures.
c. Safe performance of manual tasks.

Review of Control Measures

(31) Control measures must be reviewed periodically and revised if necessary to ensure they remain effective. The review should consider:

a. Effectiveness of control measures.
b. Worker involvement and feedback.
c. New work methods or equipment.
d. Success of training programs.
e. Reduction in MSD frequency and severity.

(32) Triggers for review include:

a. Planned changes to structures, plant, or processes.
b. Incidents related to hazardous manual tasks.
c. New information indicating existing controls may be inadequate.

Ergonomics

(33) For more information on ergonomics at SCU, refer to ‘Workplace Ergonomics’ on the SCU website for information including:

a. To complete a self-assessment checklist.
b. Set up a Workstation via the ‘Workstation Set-up Guide’.
c. How to make additional adjustments.
d. Request a sit-stand desk.

e. Request an ergonomic assessment.

(34) For training on ergonomics, refer to the Scout Introduction to Manual Handling Training. Note that training in lifting techniques must not be used as the sole or primary means to control the risk of injuries.

Section 4 - Roles and Responsibilities

(35) Refer to WHSMP13: Responsibility and Accountability Statement

Section 5 - Records of Documentation.

(36) All relevant documentation will be recorded and kept in accordance with WHS Legislation and other legislative obligations, including:

a. Hazardous Manual Task Risk Assessments.
b. Training records.

Section 6 - Revision and approval history

(37) This procedure will be reviewed as per nominated review dates or because of other events, such as:

a. Internal and external audit outcomes.
b. Legislative changes.
c. Outcomes from management reviews.
d. Incidents.

Section 7 - References

Work Health and Safety Act (in the applicable jurisdiction that SCU operates)

Work Health and Safety Regulation (in the applicable jurisdiction that SCU operates)

Hazardous Manual Tasks Code of Practice 2019 (NSW)

Hazardous Manual Tasks Code of Practice 2021 (Qld)

Section 8 - Related Documents

WHSMP02 – FOR – 07 - Hazardous Manual Task Risk Assessment Tool

WHSMP02: Hazard Identification, Risk and Opportunity Management

WHSMP06: Training and Competency

WHSMP07: Consultation, Communication and Participation

WHSMP13: Responsibility and Accountability Statement

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