

CONDUCT AN ERGONOMIC ASSESSMENT



**BASIC SAFETY &
TRAINING SOLUTIONS**



LEARNER GUIDE

SAQA: 244523

**CONDUCT AN ERGONOMIC ASSESSMENT AND TAKE
APPROPRIATE ACTION**

NQF LEVEL : 2

CREDITS : 3

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UNIT STANDARD - 244523

Learner Information:






Details	Please Complete this Section
Name & Surname:	
Organisation:	
Unit/Dept:	
Facilitator Name:	
Date Started:	
Date of Completion:	

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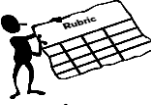



Key to Icons

The following icons may be used in this Learner Guide to indicate specific functions:

 <p>Books</p>	<p>This icon means that other books are available for further information on a particular topic/subject.</p>
 <p>References</p>	<p>This icon refers to any examples, handouts, checklists, etc...</p>
 <p>Important</p>	<p>This icon represents important information related to a specific topic or section of the guide.</p>
 <p>Activities</p>	<p>This icon helps you to be prepared for the learning to follow or assist you to demonstrate understanding of module content. Shows transference of knowledge and skill.</p>
 <p>Exercises</p>	<p>This icon represents any exercise to be completed on a specific topic at home by you or in a group.</p>

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 <p>Tasks/Projects</p>	<p>An important aspect of the assessment process is proof of competence. This can be achieved by observation or a portfolio of evidence should be submitted in this regard.</p>
 <p>Workplace Activities</p>	<p>An important aspect of learning is through workplace experience. Activities with this icon can only be completed once a learner is in the workplace</p>
 <p>Tips</p>	<p>This icon indicates practical tips you can adopt in the future.</p>
 <p>Notes</p>	<p>This icon represents important notes you must remember as part of the learning process.</p>

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Learner Guide Introduction

About the Learner Guide...	This Learner Guide provides a comprehensive overview of the CONDUCT AN ERGONOMIC ASSESSMENT AND TAKE APPROPRIATE ACTION , and forms part of a series of Learner Guides that have been developed for. The series of Learner Guides are conceptualized in modular's format and. They are designed to improve the skills and knowledge of learners, and thus enabling them to effectively and efficiently complete specific tasks. Learners are required to attend training workshops as a group or as specified by their organization. These workshops are presented in modules, and conducted by a qualified facilitator.
Purpose	This unit standard is for persons who have the responsibility to conduct an ergonomic assessment and take appropriate action.
Outcomes	Persons credited with this unit standard are able to: ☑ Explain the concept of ergonomics in the working place. Prepare for and conduct an ergonomic assessment. ☑ Perform post-assessment activities.
Assessment Criteria	The only way to establish whether a learner is competent and has accomplished the specific outcomes is through an assessment process. Assessment involves collecting and interpreting evidence about the learner's ability to perform a task. This guide may include assessments in the

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	form of activities, assignments, tasks or projects, as well as workplace practical tasks. Learners are required to perform tasks on the job to collect enough and appropriate evidence for their portfolio of evidence, proof signed by their supervisor that the tasks were performed successfully.
To qualify	To qualify and receive credits towards the learning programme, a registered assessor will conduct an evaluation and assessment of the learner’s portfolio of evidence and competency
Range of Learning	This describes the situation and circumstance in which competence must be demonstrated and the parameters in which learners operate
Responsibility	The responsibility of learning rest with the learner, so: <ul style="list-style-type: none">• Be proactive and ask questions,• Seek assistance and help from your facilitators, if required.

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Learning Unit 1	Conduct an ergonomic assessment and take appropriate action
UNIT STANDARD NUMBER	: 244523
LEVEL ON THE NQF	: 5
CREDITS	: 5
FIELD	: Health Sciences and Social Services
SUB FIELD	: Preventive Health

PURPOSE:	<p>This unit standard is for persons who have the responsibility to conduct an ergonomic assessment and take appropriate action.</p> <p>Persons credited with this unit standard are able to:</p> <ul style="list-style-type: none">Explain the concept of ergonomics in the working place.Prepare for and conduct an ergonomic assessment.Perform post-assessment activities.
LEARNING ASSUMED TO BE IN PLACE:	
Communication at NQF Level 4.	
Mathematical literacy at NQF Level 4.	

SESSION 1.

Explain the concept of ergonomics in the workplace.

Learning Outcomes

- The definitions and relevant terminology regarding ergonomics are stated.
- The objectives of ergonomics are explained in terms of the multi-disciplinary activities dealing with interactions between humans, their tasks and the working environments.
- The advantages of applying ergonomic principles in a workplace are explained.
- Ergonomic risk factors in the workplace are explained and the influences of ergonomic risk factors upon persons in terms of health, safety, well-being and production are described.

Ergonomics and Workstation Assessments

One of the biggest contributors to injuries in the tertiary education sector is in the area of ergonomics. Ergonomics encompasses a range of elements including the interface between the employee and the job.

Ergonomics considers elements such as:

- The physical and psychological demands on the employee which are necessary to perform the job,
- The mechanical equipment that is used to perform the job, and
- The work space in which the employee is required to perform the task.

Ergonomics examines the relationship between a person and the elements of their workplace associated with the task at hand. Ergonomics can apply to three levels of activity in the workplace. These levels include:

- workstation design,

- workplace design, and
- job design.

Ergonomic workstation assessments can be beneficial in reducing the risk of injury by taking into account the workstation design, workplace design and the job design, to ensure best practices are in place.

What is the aim of workstation assessment?

The aim of a workstation assessment is to assess you at your workstation, to identify potential problem areas, and then determine suitable amendments and recommendations that can be made. The assessment will take into consideration the fundamental ergonomic principles, to make your workstation layout more comfortable for you.

When should one consider a workstation assessment?

You should consider a workstation assessment if you are:

- a new employee;
- experiencing pain and/or discomfort throughout the day;
- find you are feeling more fatigued than usual;
- if you have recently experienced an injury; and/or
- if you have long-term chronic injury or illness.

Definition of Ergonomics: Ergonomics is the science of work.

Ergonomics derives from two Greek words: **ergon**, meaning work, and **nomoi**, meaning natural laws. Combined they create a word that means the science of work and a person’s relationship to that work.

In application ergonomics is a discipline focused on making products and tasks comfortable and efficient for the user.

Ergonomics is sometimes defined as the science of fitting the work to the user instead of forcing the user to fit the work. However, this is more a primary ergonomic principle rather than a definition.

Performing an Ergonomics Review

There is obvious risk in this job, but by performing an ergonomics review, you'll be able to clearly identify all the risks (not just the ones in this picture).

What is an Ergonomics Review?

- Assessment of job tasks
- Follows the risk management process
 - Recognize
 - Evaluate
 - Control



Results in effective and efficient ergonomic improvements

5 Proven Benefits of Ergonomics in the Workplace

Here are five of the proven benefits of a strong workplace ergonomics process:

1. **Ergonomics reduces costs.** By systematically reducing ergonomic risk factors, you can prevent costly MSDs. With approximately R1 out of every R3 in workers compensation costs attributed to MSDs, this represents an opportunity for significant cost savings. Also, don't forget that indirect costs can be up to twenty times the direct cost of an injury.
2. **Ergonomics improves productivity.** The best ergonomic solutions will often improve productivity. By designing a job to allow for good posture, less exertion, fewer motions and better heights and reaches, the workstation becomes more efficient.
3. **Ergonomics improves quality.** Poor ergonomics leads to frustrated and fatigued workers that don't do their best work. When the job

task is too physically taxing on the worker, they may not perform their job like they were trained. For example, an employee might not fasten a screw tight enough due to a high force requirement which could create a product quality issue.

4. **Ergonomics improves employee engagement.** Employees notice when the company is putting forth their best efforts to ensure their health and safety. If an employee does not experience fatigue and discomfort during their workday, it can reduce turnover, decrease absenteeism, improve morale and increase employee involvement.
5. **Ergonomics creates a better safety culture.** Ergonomics shows your company's commitment to safety and health as a core value. The cumulative effect of the previous four benefits of ergonomics is a stronger safety culture for your company. Healthy employees are your most valuable asset; creating and fostering the safety & health culture at your company will lead to better human performance for your organization.

Ergonomics and human factors at work

This is aimed at employers, managers and others and will help you understand ergonomics and human factors in the workplace. It gives some examples of ergonomics problems and simple, effective advice about how to solve them.

You may have heard the term 'ergonomics'. In some industries, such as major hazards, defence and transport, ergonomics is also called 'human factors'. This leaflet helps to explain how applying ergonomics can improve health and safety in your workplace.

Ergonomics is a science concerned with the 'fit' between people and their work. It puts people first, taking account of their capabilities and limitations.

Ergonomics aims to make sure that tasks, equipment, information and the environment fit each worker.

To assess the fit between a person and their work, you have to consider a range of factors, including:

The job/task being done:

- The demands on the worker (activities, workload, work pacing, shiftwork and fatigue).
- The equipment used (its design in terms of size, shape, controls, displays, and how appropriate it is for the task).
- The information used (how it is presented, accessed, and changed).
- The physical environment (temperature, humidity, lighting, noise, vibration).

The individual's physical and psychological characteristics:

- Body size and shape.
- Fitness and strength.
- Posture.
- The senses, especially vision, hearing and touch.
- Mental abilities.
- Personality.
- Knowledge.
- Training.
- Experience.

How can ergonomics and human factors improve health and safety?

Applying ergonomics to the workplace can:

- reduce the potential for accidents;
- reduce the potential for injury and ill health;

- improve performance and productivity.

Taking account of ergonomics and human factors can reduce the likelihood of an accident. For example, in the design of control panels, consider:

- The location of switches and buttons – switches that could be accidentally knocked on or off might start the wrong sequence of events that could lead to an accident;
- Expectations of signals and controls – most people interpret green to indicate a safe condition. If a green light is used to indicate a ‘warning or dangerous state’ it may be ignored or overlooked;
- Information overload – if a worker is given too much information, they may become confused, make mistakes, or panic. In hazardous industries, incorrect decisions or mistaken actions have had catastrophic results.

What kind of workplace problems can ergonomics and human factors solve?

Ergonomics is typically known for solving physical problems. For example, ensuring that emergency stop buttons are positioned so that people can reach them readily when they need to. But ergonomics also deals with psychological and social aspects of the person and their work. For example, a workload that is too high or too low, unclear tasks, time pressures, inadequate training, and poor support from managers can all have negative effects on people and the work they do.

The following examples highlight some ‘typical’ ergonomic problems found in the workplace:

Design of tasks

- Work demands are too high or too low
- The employee has little say in how they organise their work.

- Badly designed machinery guards (awkward to use or requiring additional effort) slow down the work
- Conflicting demands, e.g. high productivity and quality.
- These problems can lead to employees failing to follow procedures or removing guards, causing accidents, injury and ill health.

Manual handling

- The load is too heavy and/or bulky, placing unreasonable demands on the person.
- The load has to be lifted from the floor and/or above the shoulders.
- The job involves frequent repetitive lifting.
- The job requires awkward postures, such as bending or twisting.
- The load can't be gripped properly.
- The job is performed on uneven, wet, or sloping floor surfaces.
- The job is performed under time pressures and doesn't include enough rest breaks.

These problems may lead to physical injuries, such as low back pain or injury to the arms, hands, or fingers. They may also contribute to the risk of slips, trips, and falls. For more information on manual handling

Workstation layout

- Items that are used frequently are out of convenient reach.
- Inadequate space under work surface for legs.
- Work surface height inappropriate for the tasks causing awkward and uncomfortable postures.
- Lighting inadequate causing eyestrain when inspecting detail on work items.
- Chair not properly adjusted to fit the person and workstation.

Managing the working day

- Not enough recovery time between shifts.
- Poor scheduling of shifts.
- Juggling shifts with domestic responsibilities.
- Employees working excessive overtime.

These problems may lead to tiredness or exhaustion, which can increase the likelihood of accidents and ill health.

How can one check if there are ergonomics problems?

Checking for human factors problems is part of your normal risk assessment process. The first step in a risk assessment is to identify the hazards. This can be done by talking to employees and seeking their views, walking around your workplace to see if you can spot any hazards, and reviewing any accidents or reports of ill health you have had in the past.

Talking to employees

Workplaces where employees are involved in taking decisions about health and safety are safer and healthier. Collaboration with your employees helps you to manage health and safety in a practical way by:

- helping you spot workplace risks;
- making sure health and safety controls are practical;
- increasing the level of commitment to working in a safe and healthy way.

You are legally required to consult all your employees, in good time, on health and safety matters. In workplaces where a trade union is recognised, this will be through union health and safety representatives. In non-unionised workplaces, you can consult either directly or through other elected representatives.

Consultation involves employers not only giving information to employees but also listening to them and taking account of what they say before making health and safety decisions. Employees have important knowledge of the work they do, problems they have, and their impact on health, safety, and performance. While talking to them, you could also ask them some specific questions about their work such as:

- are their working postures comfortable (or not)?
- do they experience discomfort, aches, pain, fatigue, or feel unable to keep up with the flow of work?
- is the equipment appropriate, easy to use and well maintained?
- is the person satisfied with their working arrangements?
- do they make the same errors and mistakes repeatedly?
- are they following procedures, and if not, why not?

Hazard spotting

While you walk around your workplace, look for signs of poor or inadequate equipment design such as:

- improvised tools;
- handwritten reminders, or handwritten labels on machinery controls;
- plasters on workers' fingers or 'home-made' protective pads made of tissue or foam.

Review

Review information you may already have about accidents and ill health which may result from human factors problems:

- Look at the circumstances that lead to frequent errors or incidents. Try to identify the root causes of people's mistakes. Use accident reports to identify details of incidents and their possible causes.

- Record and look at sickness absence and staff turnover levels. High numbers may be because of the problems listed earlier and/or dissatisfaction at work.

What can I do if I think I have identified an ergonomics problem?

- Talk to employees and get them to suggest ideas and discuss possible solutions. Involve employees from the start of the process – this will help them to adopt changes.
- Look for likely causes and consider possible solutions. A minor alteration may be all that is needed to make a task easier and safer to perform. For example:
- arrange items stored on shelving so those used most frequently and those that are the heaviest are between waist and shoulder height;
- raise platforms to help operators reach badly located controls (or alternatively relocate the controls);
- remove obstacles from under desks so there is enough leg room;
- provide height-adjustable chairs, so individual operators can work at their preferred work height;
- change shift work patterns;
- introduce job rotation between different tasks to reduce physical and mental fatigue.
- Always make sure any alterations are properly evaluated by the people doing the job. Be careful that a change introduced to solve one problem doesn't create difficulties somewhere else.
- You should be able to identify straightforward, inexpensive changes yourself. But you may need to ask a qualified ergonomist if you can't find a straightforward solution or if a problem is complex.

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- Adopting an ergonomics and human factors approach can save money in the long term by avoiding costly accidents, reducing injuries, reducing sickness absence, and improving quality and productivity.

Case study 1

Eddie works on an engine assembly line. He uses a handheld impact wrench to fit a component to an engine. The assembly line makes up to 2400 engines a day and it takes approximately 3 seconds to tighten each component. As well as the risk from using a vibrating tool, Eddie often had to adopt poor postures to reach some parts of the engine. He had to repeatedly stretch out his arm and constrain his posture while tightening the adapter. After a few weeks Eddie found that he was leaving work with shoulder and neck pain. One tea break, Eddie's line manager saw him rubbing his neck and shoulder and recognised that the pain could be due to the type of work Eddie was doing. The line manager spoke with Eddie and then told the company health and safety officer about what she had seen. The company assessed the work by considering ergonomics principles and, after getting ideas from the workforce, came up with the following modifications:

- They replaced the impact wrench with one with minimal reaction force so that little shock was transmitted to the hand. They also suspended the wrench so Eddie didn't have to support its weight.
- They modified the workplace layout so workers had better access to all sides of the engine, avoiding the need to adopt poor working postures.
- They implemented a job rotation scheme so the five workers on the line were moved around a number of different tasks.

Some of these tasks still required the use of vibrating tools, but the overall personal exposure was halved. As a result of the modifications there was:

- a reduction in vibration exposure;
- no need to adopt poor and constrained postures;
- reduced boredom and fatigue for Eddie's team;
- improved productivity.

SESSION 2.

Prepare for and conduct an ergonomic assessment.

Learning Outcomes

- The relevant personal protective equipment and instruments are selected, inspected and the need for each item explained during the course of the inspection.
- The consequences of entering a workplace without obtaining the relevant permission are explained in terms of health, safety and productivity and such permission is obtained.
- The area where assessment is to take place is examined and hazards and risks pertaining to health and safety are dealt with whilst a full inspection is given for all actions in terms of consequences to health, safety and productivity.
- The assessment is performed in a manner that fosters teamwork and avoids conflict, and data is continuously recorded.
- Work related hazards and associated risks pertaining to health and safety are identified and dealt with on a specified manner.
- Data is collated and a report is prepared and submitted to the relevant supervisor.

PERSONAL PROTECTIVE EQUIPMENT IN HUMAN FACTORS & ERGONOMICS

Any item of PPE imposes a barrier between the wearer/user and the working environment. This can:

- create additional strains on the wearer;
- impair their ability to carry out their work;
- create significant levels of discomfort

Any of these can discourage wearers from using PPE correctly, therefore placing them at risk of injury, ill-health or, under extreme circumstances,

death. Good ergonomic design can help to minimise these barriers and can therefore help to ensure safe and healthy working conditions through the correct use of PPE.

The work of the IOM in the ergonomics of PPE has ranged from fundamental research into issues such as respiratory resistance and the thermal impact of protective clothing, to the application of ergonomics principles to the design, evaluation and selection of PPE, including helping to develop standards.

The ergonomics of personal protective equipment

Richard Graveling from the Institute of Ergonomics and Human Factors explains the importance of ensuring that the personal protective equipment (PPE) chosen fits and suits the wearer.

We do not expect everyone to wear the same size clothes, so why buy one model of PPE for everybody? We should consider the ergonomics of PPE – comfort, size and shape – but also individual perception of risk.

To many people, ergonomics is about how they sit at their desk or the layout of the controls in their car. The reality is very different and, although how people sit and work is important – as is how their workplace is designed to enable them to do that correctly – the science of ergonomics is much more far-reaching. Many major accidents attributed to ‘human error’ stem from poor ergonomic design.

When it comes to PPE, ergonomics is important

It is important to recognise that this is not just a comfort issue. If personal protection equipment does not fit properly, gets in the way with work or with other PPE or is seen as just too much hassle for the perceived risk, then it will either not be worn correctly or not worn at all. Are you putting the health and safety of your workforce at risk by not considering more than just the technical performance requirements when you select PPE?

What is personal protective equipment (PPE)?

PPE is equipment worn by a worker to minimize exposure to specific occupational hazards. Examples of PPE include respirators, gloves, aprons, fall protection, and full body suits, as well as head, eye and foot protection. Using PPE is only one element in a complete safety program that would use a variety of strategies to maintain a safe and healthy occupational environment. PPE does not reduce the hazard itself nor does it guarantee permanent or total protection.

What is the role of personal protective equipment (PPE)?

Hazards exist in every workplace so strategies to protect workers are essential. The priority should be the elimination and control of hazards at their source or along the path between the source and the worker. Many methods are available, and those most appropriate to the specific situation should be used.

Controlling a hazard at its source should be the first choice because this method will eliminate it from the workplace altogether or isolate it from the worker. This approach may require substitution of a material with nonhazardous ones, isolation of hazards, addition of safety features to existing equipment, redesign of the work processes, or purchase of new equipment. When the hazard **cannot be removed or controlled adequately**, Personal Protective Equipment (PPE) may be used if the work process is to continue.

Images for personal protective equipment for ergonomics



When is the best time to provide protection from hazards?

When hazards are identified, it is useful to consider general principles of control, which can be thought of as two basic categories: "pre-contact" or "point-of-contact."

Pre-contact

Pre-contact control is the first and most important method because it prevents the hazard from reaching the worker. Pre-contact control methods include substituting materials or processes that are less hazardous, isolating hazardous processes, retrofitting existing equipment, or acquiring safer equipment. Pre-contact control can also be achieved by providing protection to the worker with local exhaust ventilation, machine guarding, better housekeeping, and safe work practices. Many Canadian jurisdictions legislate pre-contact controls. While many hazards can be anticipated and avoided through effective engineering at the pre-contact stage, others may not be recognized before an accident occurs. A thorough effort to identify hazards is essential so that hazards may be reduced or eliminated at the source.

Where pre-contact controls are not practical, feasible, or totally effective then point-of-contact controls must be used.

Point-of-contact

The point-of-contact control is important but secondary because it cannot eliminate the hazard. It only manages the hazard at the point of contact with the worker. This form of control is primarily accomplished through

personal protective equipment. It is to be used when pre-contact controls are not totally effective. Many Canadian jurisdictions also legislate point-of-contact control methods.

When should PPE be used?

PPE is used to reduce or minimize the exposure or contact to injurious physical, chemical, ergonomic, or biological agents. A hazard cannot be eliminated by PPE, but the risk of injury can be reduced. For example, wearing hearing protection reduces the likelihood of hearing damage when the ear plugs or muffs are appropriate for the kind of noise exposure and they are used properly. However, hearing protection does not eliminate the noise.

PPE should only be used:

- as an interim (short term) measure before controls are implemented;
- where pre-contact control technology is not available;
- where pre-contact controls are inadequate;
- during activities such as maintenance, clean up, and repair where pre-contact controls are not feasible or effective;
- during emergency situations.

Musculoskeletal injuries (MSIs)

The best way to prevent MSIs— soft tissue injuries such as strains or sprains—are to eliminate or minimize the risk. When this is not possible, PPE can help prevent MSIs. The following table will help you check whether you have the right PPE for the job:

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RISK	BODY PART	PPE
Contact with hard objects such as edges, tools, machinery, or products	Hands	Padded gloves
	Elbows / forearms	Elbow pads
	Knees	Knee pads
Handling objects—lifting or lowering, pushing or pulling, carrying, or gripping an object	Hands	Gloves that fit and grip well
Vibration	Hands	Well-fitting anti-vibration gloves
Slips, Trips, and Falls	Feet	Anti-slip, proper-fitting footwear
Cold Environment	Hands	Warm gloves that fit and grip well
	Body	Warm clothing that doesn't add bulk

Some alternatives to wearing PPE include:

- Padding equipment to reduce contact stress
- Using kneeling pads instead of wearing knee pads
- Covering equipment handles with anti-vibration wraps
- Standing on anti-fatigue mats during prolonged standing

Risk Assessment and Control Procedure

Purpose

To ensure that there is a formal process for hazard identification, risk assessment and control to effectively manage workplace and safety hazards.

Preamble

A Person Conducting A Business or Undertaking (PCBU) has obligations under the Work Health and Safety Act 2011 (WHS Act) as well as the Work Health and Safety Regulation 2011 (WHS Regulation) to manage risks to health and safety so far as is reasonably practicable. A risk management approach involves identification and assessment of risks followed by elimination of risks in the first instance or where this is not practicable, minimising those risks so far as reasonably practicable.

Definition of Risk

Risk: The likelihood, or possibility, that harms (injury, illness, death, damage etc) may occur from exposure to a hazard.

Risk Assessment: Is defined as the process of assessing the risks associated with each of the hazards identified so the nature of the risk can be understood. This includes the nature of the harm that may result from the hazard, the severity of that harm and the likelihood of this occurring.

Risk Control: Taking actions to eliminate health and safety risks so far as is reasonably practicable. Where risks cannot be eliminated, then implementation of control measures is required, to minimise risks so far as is reasonably practicable. A hierarchy of controls has been developed and is described below to assist in selection of the most appropriate risk control measure/s.

Risk Assessment Procedure

The risk assessment procedure can best be illustrated in the following way

Step 1: Identify Hazards

WHS legislation in New South Wales requires that PCBUs, in consultation with workers identify all potentially hazardous things or situations that may cause harm. In general, hazards are likely to be found in the following;

- Physical work environment,

- Equipment, materials or substances used,
- Work tasks and how they are performed,
- Work design and management

In order to identify hazards, the following are recommended:

- Past incidents/accidents are examined to see what happened and whether the incident/accident could occur again.
- Employees be consulted to find out what they consider are safety issues, i.e. ask workers about hazards near misses they have encountered as part of their work. Sometimes a survey or questionnaire can assist workers to provide information about workplace hazards.
- Work areas or work sites be inspected or examined to find out what is happening now. Identified hazards should be documented to allow further action. The work environment, tool and equipment as well as tasks and procedures should be examined for risks to WHS.
- Information about equipment (e.g. plant, operating instructions) and Material Safety Data Sheets be reviewed to determine relevant safety precautions.
- Some creative thinking about what could go wrong takes place, i.e. what hazardous event could take place here?

Step 2: Assess Risks

Risk assessment involves considering the possible results of someone being exposed to a hazard and the likelihood of this occurring. A risk assessment assists in determining:

- How severe a risk is
- Whether existing control measures are effective
- What action should be taken to control a risk
- How urgently action needs to be taken.

A risk assessment should include:

- Identify factors that may be contributing to the risk,
- Review health and safety information that is reasonably available from an authoritative source and is relevant to the particular hazard,
- Evaluation of how severe the harm could be. This includes looking at the types of injuries/illnesses/harm/damage that can result from the hazard, the number of people exposed, possible chain effects from exposure to this hazard.
- Evaluation of how a hazard may cause harm. This includes examining how work is completed, whether existing control measures are in place and whether they control the harm, looking at infrequent/abnormal situations as well as standard operating situations. A chain of events related to a risk may need to be considered.
- Determining the likelihood of harm occurring. The level of risk will increase as the likelihood of harm and its severity increases. The likelihood of harm occurring may be affected by how often the task is completed, in what conditions, how many people are exposed to the hazard and for what duration.

Controlling the risks in the workplace

As part of managing the health and safety of your business you must control the risks in your workplace. To do this you need to think about what might cause harm to people and decide whether you are taking reasonable steps to prevent that harm. This is known as risk assessment and it is something you are required by law to carry out. **If you have fewer than five employees you don't have to write anything down.**

A risk assessment is not about creating huge amounts of paperwork, but rather about identifying sensible measures to control the risks in your

workplace. You are probably already taking steps to protect your employees, but your risk assessment will help you decide whether you have covered all you need to.

Think about how accidents and ill health could happen and concentrate on real risks – those that are most likely and which will cause the most harm.

For some risks, other regulations require particular control measures. Your assessment can help you identify where you need to look at certain risks and these particular control measures in more detail. These control measures do not have to be assessed separately but can be considered as part of, or an extension of, your overall risk assessment.

How to assess the risks in your workplace

- Identify the hazards
- Decide who might be harmed and how
- Evaluate the risks and decide on precautions
- Record your significant findings
- Review your assessment and update if necessary

Many organisations, where you are confident you understand what's involved, can do the assessment themselves. You don't have to be a health and safety expert.

When thinking about your risk assessment, remember:

- a **hazard** is anything that may cause harm, such as chemicals, electricity, working from ladders, an open drawer etc
- the **risk** is the chance, high or low, that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be

SESSION 3. Perform post-assessment activities.
Learning Outcomes
<ul style="list-style-type: none">• The results of the ergonomic assessment are analysed and compared with required specifications. Deviations are noted and dealt with accordingly, with full explanations of actions taken.• The instruments are cleaned and stored according to manufacturer's specifications. Defective instruments are marked and set aside for repair and testing.• Detailed reports are completed, in the required format, and submitted to designated personnel within the required time. Recommendations for follow-up assessments are noted for future reference.

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Ergonomic issues can be associated with a wide range of concerns including the physical design of workstations, workspaces, the working environment, tools, vehicles, computer programs and plant. It can also involve cognitive processes such as those involved with workload, decision making, skilled performance and stress. There are procedures for dealing with all these issues to make sure any difficulties are addressed.

Ergonomics & Wellness

Ergotron products adapt technology to the physical needs of each individual. This creates a work environment that promotes wellness while

improving productivity. Ergotron is a member of the Human Factors and Ergonomics Society, reflecting dedication to workplace wellness while contributing to the study of ergonomics.

The goal of an ergonomics program in industry is to adapt the workplace to a specific worker, dependent on the job description, required tasks, and physical make-up of the employee performing those tasks. Two types of situations typically cause people to begin having back pain or to sustain a back injury while on the job:

1. Non-accidental injury, where pain arises as a result of normal activities and requirements of the task. Poor body mechanics (such as slouching in an office chair), prolonged activity, repetitive motions, and fatigue are major contributors to these injuries. This may occur from sitting in an office chair or standing for too long in one position.
2. Accidental injury results when an unexpected event triggers injury during the task. A load that slips or shifts as it is being lifted, and a slip and fall or hitting one's head on a cabinet door are typical examples. These accidents can jolt the neck, back, and other joints with resulting muscle or tearing of soft tissue in the back.

Recommended Ergonomic Assessment Tools

Ergonomic Assessment Tools

Applying a scientific, evidence-based approach to your ergonomics process is important. The goal is to identify ergonomic risk factors, quantify them, and then make measurable improvements to the workplace, ensuring that jobs and tasks are within workers' capabilities and limitations.

The best approach for doing that is to make ergonomics an ongoing process of risk identification and risk reduction based on objective, scientific analysis of your workplace.

Rapid Entire Body Assessment (REBA)

This tool uses a systematic process to evaluate whole body postural MSD and ergonomic design risks associated with job tasks. A single page form is used to evaluate required body posture, forceful exertions, type of movement or action, repetition, and coupling. A score is assigned for each of the following body regions: wrists, forearms, elbows, shoulders, neck, trunk, back, legs and knees. After the data for each region is collected and scored, tables on the form are then used to compile the risk factor variables, generating a single score that represents the level of MSD risk.

Rapid Upper Limb Assessment (RULA)

This diagnostic tool assesses biomechanical and postural load requirements of job tasks/demands on the neck, trunk and upper extremities. A single page form is used to evaluate required body posture, force, and repetition. Based on the evaluations, scores are entered for each body region in section A for the arm and wrist, and section B for the neck and trunk. After the data for each region is collected and scored, tables on the form are then used to compile the risk factor variables, generating a single score that represents the level of MSD risk.

Liberty Mutual Manual Material Handling Tables (Snook Tables)

The Liberty Mutual MMH Tables (commonly known as Snook Tables) outline design goals for various lifting, lowering, pushing, pulling, and carrying tasks based on research by Dr. Stover Snook and Dr. Vincent Ciriello at the Liberty Mutual Research Institute for Safety. The tables provide weight/force values, for specific types of tasks that are deemed to be acceptable to a defined percentage of the population. This is done by comparing data for each of the specific manual handling tasks against the appropriate table.

Ergonomic Assessment

Ergonomic assessments, also referred to as workstation assessments, ensure that a worker's workstation is ergonomically designed to minimise the risk of injury and maximise productivity.

Assessment is also conducted:

- to support the return to work of an injured worker by ensuring that their workstation is designed to minimise any discomfort as they recover from their injury and prevent any aggravation of the injury
- for workers who work from home, to ensure their home work environment is safe and ergonomically designed.

We offer brief assessments designed to ensure correct workstation set-up. These checklist-based assessments are a cost-effective way of preventing any injury, pain or discomfort for an individual or groups of employees.

Where an individual is already experiencing pain or discomfort, or has an injury or disability, we conduct a thorough assessment to ensure they can work safely and comfortably. The assessment helps employers to meet their duty of care with a formal report provided following the assessment.

All assessments are conducted by experienced occupational therapists, physiotherapists or exercise physiologists and covers:

- posture
- physical and muscular work demands
- equipment and workplace design
- environmental factors (lighting, noise and temperature]
- keyboard use
- Pause-stretch exercises.