



Department of Consumer
and Employment Protection
Government of Western Australia



Industry guidance document

Checkout workstations in retail - safe design and work practices



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Foreword

This industry guidance document is the outcome of the Department of Consumer and Employment Protection Tripartite Working Group on Checkout Workstations in Retail. This document has been developed through the tripartite consultative process and views of the employer group and the union, along with those of government and experts, including practices in other states and countries, have been considered.

The document follows the risk management process of hazard identification, risk assessment and risk control, and provides examples of safe work practices and the safe design of standing and seated workstations.

The Working Group will continue monitoring developments in relation to the safe design of seated and standing checkout workstations and will update this document as new technology becomes available.



1. Introduction

The most common contributing factors to occupational injuries for checkout operators in Western Australia are poor design of checkout workstations and unsafe systems of work.

Most injuries sustained by checkout operators are sprains/strains of joints and adjacent muscles, with the majority of injuries being located in the lower back, followed by wrist and shoulder injuries. These injuries can be referred to as musculoskeletal injuries.

Checkout workstations in the retail industry should be designed, planned and operated so as to reduce the exposure of checkout operators to hazards resulting in musculoskeletal injuries. Several factors can increase the risk of injury or harm to health to checkout operators.

The Occupational Safety and Health Regulations 1996 require hazards to be identified, their risks assessed, and the means by which the risks may be reduced considered. This is called the risk management process. Follow up and review is an essential aspect of the risk management process. Control measures need to be reviewed to determine if risk is eliminated or controlled, or if new hazards have been introduced.

This document illustrates some factors that can increase the risk of injury or harm to checkout operators. In addition, it also provides information on the risk management process that can be followed to eliminate or reduce the risk of injury to checkout operators.

2. Safety laws

2.1 Occupational Safety and Health Act 1984

Under the *Occupational Safety and Health Act 1984* (the Act) employers have a 'duty of care' to provide a safe working environment so that employees are not, so far as is practicable, exposed to hazards.

"So far as practicable" means that the employer is expected to take measures that are practicable and reasonable to reduce, control or eliminate hazard. The relevant factors in assessing practicability are set out in section 3 of the Act, and are as follows:

- (a) the severity of any potential injury or harm to health that may be involved, and the degree of risk of it occurring;
- (b) the state of knowledge about --
 - (i) the injury or harm to health referred to in paragraph (a);
 - (ii) the risk of that injury or harm to health occurring; and
 - (iii) means of removing or mitigating the risk or mitigating the potential injury or harm to health; and
- (c) the availability, suitability, and cost of the means referred to in paragraph (b)(iii)".

2.2 Occupational Safety and Health Regulations

The Occupational Safety and Health Regulations 1996 (the Regulations) prescribe minimum standards and define specific requirements related to particular hazards or particular types of work.

Sub-regulation 3.19(1) requires an employer to provide seating if the work is done from a sitting position, or if the work is of a kind that can be done satisfactorily from a sitting position.

Additionally, sub-regulation 3.19(2) provides that an employer must, to the extent practicable, where an employee's work is done from a standing position and the employee's work allows the employee to sit from time to time, provide and maintain seating, so that the employee may sit down during the periods when the employee is not working.

For more information on safety laws refer to Chapter 5.



2.3 Provision of a standing or seated checkout workstation

The issue of seated checkout workstations has been the subject of some community debate over recent years. This debate focused on the issue of whether the work could be *satisfactorily* done from a sitting position in a standing checkout workstation, and whether or not retailers should provide a seated or a standing checkout workstation.

Most retailers in Australia provide standing checkout workstations, where employees are scanning and bagging articles. Some other countries provide seated checkout workstations in supermarkets. When seating is provided, employees are scanning and customers are bagging articles.

The design and type of workstation is dependent upon a number of factors, including but not limited to the work that is carried out, the size and weight of articles to be handled and the activities the checkout operator carries out.

WorkSafe promotes the use of a risk management approach to assess each work situation and provide a working environment where employees are not exposed to hazards. This could include an ergonomically designed standing or seated checkout workstation, among other measures such as task rotation, micro-pauses and adequate information and training.

WorkSafe's view is that seating should be provided where it is practicable to do so and where it would not increase the risk of musculoskeletal injuries.

3. Risk factors

A number of factors can increase the risk of musculoskeletal injury and other manual handling injuries to checkout operators. These include:

- size, shape and weight of objects, which are moved/handled by checkout operators, including the force applied when handling awkward or heavy articles, such as boxes, cartons of cans and shopping bags;
- awkward movements, such as twisting, bending and over-reaching, particularly in combination with handling articles and shopping bags;
- sitting or standing while holding the body in a fixed position; and
- individual characteristics such as age, gender, physical dimension, pregnancy and any disabilities or other conditions a person may have.

Risk factors are influenced by the:

Duration and frequency of the tasks

Standing or sitting behind a checkout for prolonged periods of time and repetitive movements while handling articles can increase the risk of injury to employees. To reduce such risks, task rotation, regular breaks and mini-breaks should be implemented.

Design and layout of the workstation

The design and layout of checkout workstation can increase the risk of injury, as a result of lifting, twisting, stooping, and reaching. In the design and layout of checkout workstations the following factors should be taken into account to reduce the risk of injury to employees:

- the working heights;
- the type and position of equipment such as bags, scanning equipment and scales;
- the need for lifting, twisting, stooping and reaching while performing the tasks;
- the type of floor surfaces, whilst the operator is standing;
- ergonomic design of chair or sit/stand stool, while operator is sitting;
- the leg clearance; and
- the space around the workstation.

Experience and training

Unfamiliarity with the task and a lack of training in relation to the tasks and the hazards involved can increase the risk of injury to employees.

4. Hazard identification, risk assessment and risk control

The *Occupational Safety and Health Act 1984* places the onus on the employer to provide and maintain, so far as is practicable, a safe work environment in which employees are not exposed to hazards. A safe workplace, plant and systems of work should be provided and employees should be adequately trained and supervised to carry out their duties in a safe manner.

Three basic steps should be taken to ensure a safe and healthy workplace. They are based on the concept that the workplace should be modified to suit people, not vice versa.

The three steps are:

identifying the hazards – recognising things which may cause injury or harm to the health of a person;

assessing the risks – looking at the possibility of injury or harm occurring to a person being exposed to a hazard; and

controlling the risk – by introducing measures, which will eliminate or reduce the risk of a person being exposed to a hazard.

This three-step approach is called the risk management process and should be carried out in consultation with safety and health representatives, if any, and employees.

As part of the risk management process, identified hazards and control measures should be **monitored and reviewed**. This is to ensure that the control measures are continuing to prevent or control exposure to hazards or hazardous work practices.

4.1 Hazard identification

Methods of identifying hazards include, but are not limited to:

Checking and analysis of injury and hazard reports.

Consulting with employees, safety and health representatives and supervisors.

Consultation should include the following:

Asking employees about which tasks or other factors may lead to physical strain when working behind the checkout workstation. This could include questions such as:

- Which tasks or other factors may lead to physical strain?
- Has the employee had any discomfort or pain while working behind the checkout workstation, if yes, what were contributing factors?
- How many hours per week employees generally work behind checkout workstations?
- How many hours per day does the employee work behind a checkout workstation during trading hours?
- After how many minutes/hours a break is taken and how long are these breaks?
- If task rotation is in place, how that works and if that is seen as an adequate measure?
- If individual characteristics of employees may lead to physical strain?

Consulting with safety and health representatives on safety and health problems or concerns that they have become aware of as part of their functions.

Talking to supervisors about any concerns or difficulties they are aware of or that their employees experience while working behind a checkout workstation.

Carrying out workplace inspection and observing tasks.

Observe manual handling tasks and determine risks such as lifting bags, twisting, stooping and reaching while performing the functions of the job and take note of the:

- working heights;
- position of equipment, such as shopping bags, position of scanning equipment and scales;
- floor surfaces;
- leg clearance; and
- space around workstation.

Looking for trends or common problems in the hazards identified.

4.2 Risk assessment

The purpose of risk assessment is to assess any identified hazard that may be a risk within the workplace. Risk assessment should be carried out in consultation with employees and safety and health representatives.

The assessment should take into account a range of risk factors including:

- workplace and checkout workstation layout;
- working posture;
- duration and frequency of task;
- force applied;
- work organisation;
- skills and experience; and
- individual factors.

The risk assessment process assesses the potential consequences for each hazard and rate the risk of injury or harm to the employee.

For more information on risk assessment and for copies of risk assessment forms refer to the *Risk assessment form* in Appendix 1, the *Code of practice on manual handling*; The national *Code of practice for the prevention of occupational overuse syndrome* and *The First Step - managing safety and health hazards in your workplace*.

4.3 Controlling the risk

To eliminate or reduce manual handling and other risks, suitable controls need to be developed and implemented in consultation with employees.

Controls could include the following:

- where practicable eliminate the manual handling activity;
- where this is not practicable, reduce the risk by redesigning or modifying the:
 - work and work organisation;
 - checkout workstation, such as working height, leg clearance, space around the workstation;
 - position of equipment, such as shopping bags, scanning equipment and scales;
 - task to suit the worker; and
 - information and training provided to employees.

Strategies to change work should be aimed at reducing risk factors associated with actions, postures, loads and the work environment.

Risk factors can be reduced by a number of approaches, including:

- modifying workplace layout and equipment;
- modifying the load;
- controlling the work environment; and
- redesigning work patterns.

The design of workstations is dependent upon the work that is carried out and the size and weight of the articles. For instance, the work height of a checkout workstation in a hardware store, where heavy or bulky items are handled, is likely to be lower than a workstation in a music store, where light and small items are handled.

The type of workstation is dependent upon the activities and the type of work that is carried out. For example, in the event that the operator is walking up and down to serve clients, a standing workstation is preferred. In the event that the operator stays in one position to serve clients, both standing or seated workstation may be appropriate.



The following information is on the design, operation and other control measures that can be considered to ensure the safety of standing and seated checkout workstations.

4.3.1 Control measures for standing checkout workstations

- **Work height**

The work height depends on three aspects:

- > The height of the user.
The ideal work height of the workstation is at elbow height. Fixed height of workstations can best be related to the average size of the users.
- > The type of work.
As a guide, light or precision work should be carried out at approximately elbow height, whereas heavy work should be carried out at approximately hip height.
- > The size and weight of articles.

Generally the work height is dependent upon the weight of the average articles that are sold in the shop. The work height should be higher when scanning and packaging light and small articles and should be lower when scanning and packaging large and heavy articles.

- **Reaching distances**

Equipment that is used often throughout the day, such as scales, scanner and eftpos machine should be within an easy reach distance, while working in a standing position. This will reduce the need for reaching and stooping.

To reduce lifting, bending over and reaching while scanning heavy or bulky articles, adequate controls must be considered. These controls could include, but are not limited to:

- > scan cards of barcodes for heavy or bulky articles should be kept near the operator;
- > hand-held scanners;
- > PLUs (price look-ups);
- > detachable tickets.

- **Position of shopping bags**

If the operator places the articles in plastic bags using a single or double bag well, the location of the bags should be in such a position that the operator can adopt a comfortable upright working posture. The position and height and the bag racks should not cause operators to stoop, twist or reach while packing shopping bags.

Checkout workstations should be designed, in such a way that it is not necessary to lift a full shopping bag onto the checkout counter. The design of the checkout should allow the operator to slide each shopping bag across the counter to customers easily.

Clients increasingly bring their own shopping bags, which can carry heavier loads. Bagging and lifting heavier bags, create an increased risk of injury or harm to health to the operator. The operator should assess the risk and wherever practicable encourage the client to assist with bagging of articles.

- **Leg clearance**

To facilitate a natural upright position, it is important to ensure there is sufficient room for the operator to have leg clearance under the workstation. Intermittently raising one leg could improve the position of the hip and back.

- **Workspace generally**

There must be sufficient room around the checkout workstation for the checkout operator to be able to complete tasks unimpeded. Paths for through traffic should be minimal and reduce the number of people walking behind or past the checkout station.

- **Floor surface**

The floor behind the counter or checkout must be a non-slippery surface. Standing on hard floor surfaces should be avoided. If employees are working in a standing position, soft floor surface or anti-fatigue matting should be provided.

- **Footwear**

Employees should wear flat sturdy footwear. Inappropriate footwear ie high heels can cause back and neck problems, particularly if worn for a long period of time.

4.3.2 Control measures for seated checkout workstations



- **Work height**

The ideal working height is approximately at elbow level. At this height the arms can move freely above the working surface and the elbows can rest on the surface while the shoulders are relaxed. Lifting of any items should be minimised and lifting of heavy items should be eliminated while sitting down.

The workstation surface height is influenced by:

- > **Thickness of the work surface**

The thickness of the work surface should be reduced as far as practicable, to ensure sufficient leg clearance.

When purchasing new equipment, attention must be paid to the thickness of the work surface and appliances (eg money drawer, scanner, conveyor, etc).

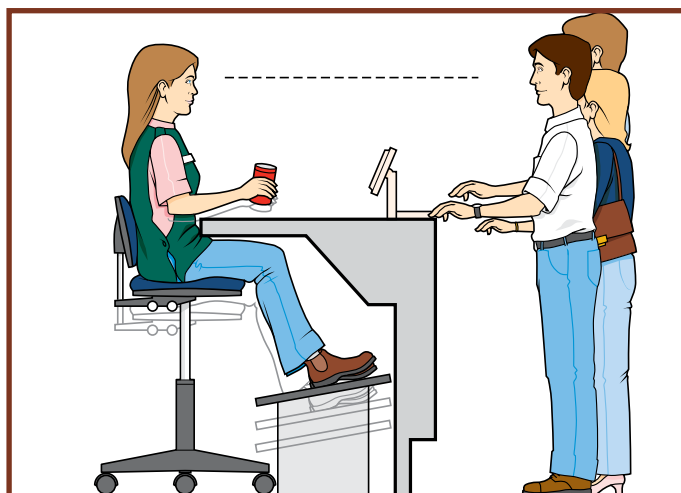
- > **Height and design of chair**

The height of the chair must be adjustable and suitable back support should be provided. The seat height depends on personal preference, work surface height and thickness, and the presence of a raised platform.

- > **Height and adjustability of footrest**

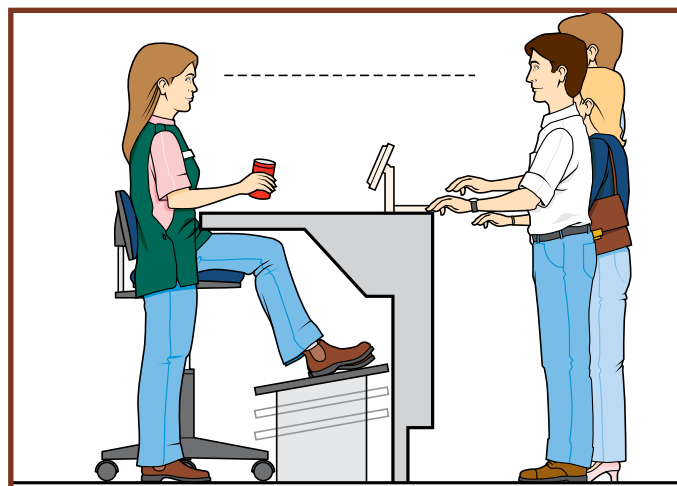
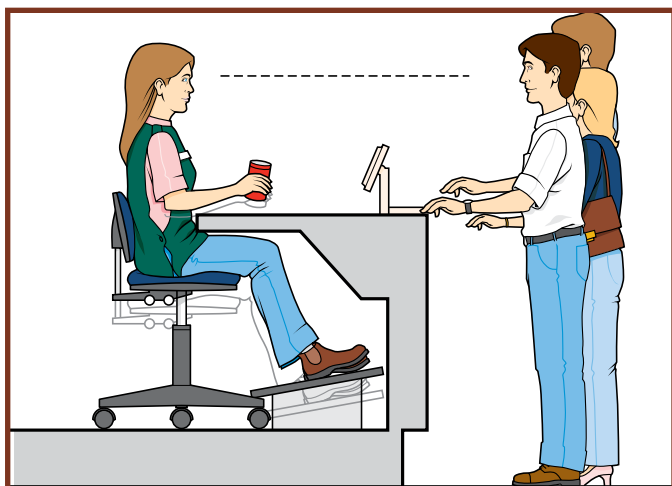
The size and position of the footrest are important to ensure a good sitting posture. The footrest must be adjustable in order to accommodate different body characteristics.

Eye contact is very important for good communication. Therefore it is important to be able to communicate at an approximate similar eye height.

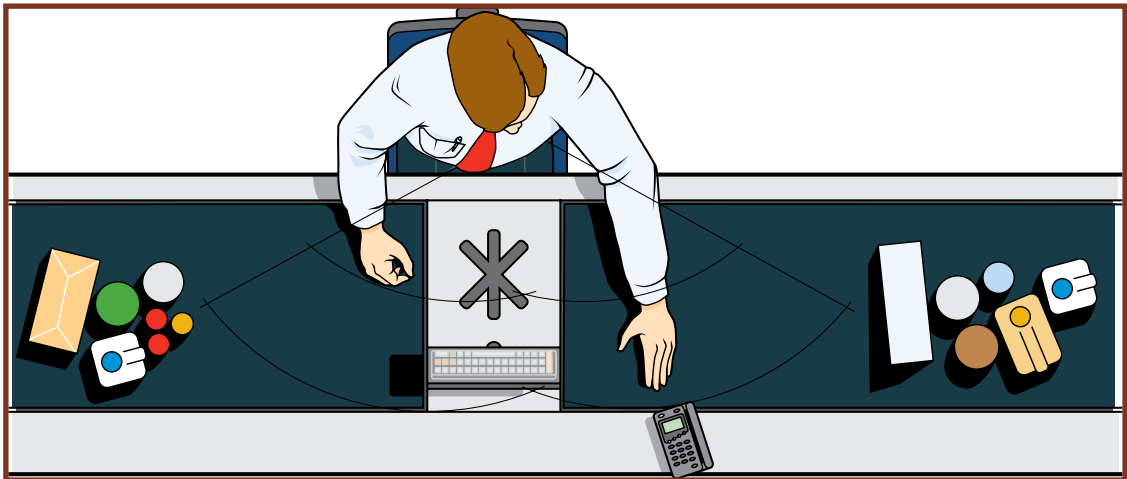


There are two ways to achieve this:

- a cash register with an elevated floor surface; or
- a high cash register with a high chair, which allows work to be carried out in either a sitting or standing position. Risk in relation to getting on and off the chair in the specific situation should be considered.



- **Reaching distances**



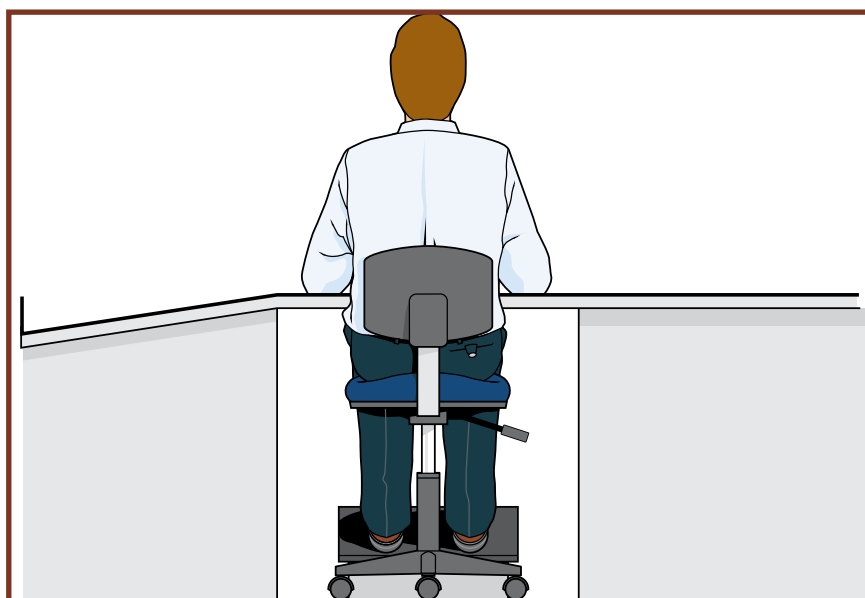
Equipment that is used often throughout the day, such as scales, scanner and eftpos machine should be within an easy reach distance, while working in a seated position. This will reduce the need for reaching and stooping.

Whilst working in a seated position reaching to equipment, and lifting of bags and awkward or heavy articles should be minimised. Lifting and twisting while working in a seated position increases the load on the spine and therefore the risk of musculoskeletal injury.

The ergonomic design of a seated workstation should allow the operator to slide articles from the conveyor belt across a scanner onto another belt or area where customers can do their own bagging.

To eliminate the need to weigh articles at the checkout, scales with a built-in labelling machine could be placed in the fruit and vegetable area to allow customers to weigh and label the articles.

- **Leg clearance**



Sufficient room must be provided to allow unimpeded leg clearance. A very common problem in checkout workstations is a lack of leg room, due to areas underneath the station being used as a temporary storage for items such as plastic bags, hangers and rubbish bins. The provision of adequate leg clearance is also important in the case of sit/stand workstations. Obstacles can impede free movement of the chair or sit/stand stool.

4.3.3 Control measures for seated and standing checkout workstations

- **Task rotation and regular breaks/micro pauses**

Task rotation and job enlargement can introduce task variety and reduce the amount of repetitive movements or sustained manual handling each employee does throughout the shift.

Implementing work practices such as regular breaks and micro pauses including stretching, rising and greeting new customers, can help prevent injury.

- **Training**

All operators must receive appropriate training in manual handling and risk reduction strategies. Training could include elements such as:

- optimal work posture to reduce the risk of injury;
- optimal use of scan cards and hand held scanners;
- task rotation and different tasks; and
- taking regular breaks and micro pauses;

When the employee is working from a standing position operators must receive appropriate training in risk reduction strategies with regard to:

- “propping” themselves up against the checkout; and
- to the extent practicable, sitting down from time to time when the employee is not working;

When the employee is working from a seated position operators must receive appropriate training in risk reduction strategies with regard to:

- standing up to stretch the back and other muscles when there is a lull between customers.

5. Overview of the applicable legislation

Western Australia’s occupational safety and health laws cover all individual workplaces, including shops, supermarkets and other retail outlets.

5.1 What does the Act say?

The *Occupational Safety and Health Act 1984* requires employers, as far as practicable, to provide and maintain a working environment in which employees are exposed to hazards.

Employers’ duties include:

- providing and maintaining safe workplaces, plant and systems of work;
- providing safety information, instruction, training and supervision;
- consulting and cooperating with safety and health representatives and employees; and
- where it is not practicable to eliminate hazards, providing protective clothing and equipment.

Employees are required to:

- take reasonable care of their own safety and health; and
- avoid adversely affecting the safety or health of others.

5.2 What do the regulations say?

The Occupational Safety and Health Regulations 1996 include a number of sections relevant to the ergonomic design of workstations in retail.

The first of these is **Regulation 3.1** which requires employers, main contractors, self-employed persons and those in control of workplaces or access to workplaces to:

Identify each hazard to which a person at the workplace is likely to be exposed;

Assess the risk of injury or harm to a person resulting from each identified hazard; and

Consider the means by which risk may be reduced.

Without limiting regulation 3.1, **Regulation 3.4** requires employers, main contractors, self employed people and those in control of workplaces or access to workplaces to identify hazards which are likely to arise from manual handling at the workplace, assess the risk and consider control measures. Manual handling includes any activity requiring the use of force exerted by a person to lift, lower, push, pull, carry or otherwise move, hold restrain a person, animal or thing.

Regulation 3.6 *Movement around workplaces* says that at a workplace an employer, the main contractor, self employed person or a person having control of the workplace must, where practicable, ensure that the workplace is arranged so that persons are able to move safely within the workplace and passages for the purpose of enabling persons to move within the workplace are at all times kept free of obstructions.

Regulation 3.14 *Work space generally* says that as far as practicable, the employer must provide each employee with sufficient space in which to work without risk to the employee's safety and health.

Regulation 3.19 *Seating* requires that

- (1) If an employee's work is done from a sitting position or is of a kind that can be satisfactorily done from a sitting position then the employer must provide and maintain seating:
 - (a) that is designed having regard to the nature of the work to be performed and the characteristics of the workstation;
 - (b) that is strongly constructed, stable, comfortable and of suitable size and height for the employee; and
 - (c) if practicable, has a backrest or is otherwise designed to provide back support.
- (2) If an employee's work is done from a standing position and the work allows the employee to sit from time to time, to the extent practicable, the employer must provide and maintain seating so that the employee may sit down for the periods when not working.

Appendix 1

Risk assessment form - checkout workstations - Part 1

| Risk factors to consider | Yes | No | N/A |
|--|-----|----|-----|
| Workplace and checkout workstation layout/design | | | |
| Standing workstation | | | |
| Is the height of the checkout workstation between elbow and hip height? | | | |
| Are the shopping bags located: <ul style="list-style-type: none"> • So that the operator can adopt a comfortable upright position? • So the operator does not have to lift a full shopping bag onto the checkout counter? | | | |
| Is the floor surface soft or if it is a hard floor surface is there anti-fatigue matting? | | | |
| Seated workstations | | | |
| Is the height of the checkout workstation at approximately elbow height of the user? | | | |
| Is the thickness of the work surface reduced as far as is practicable to ensure sufficient leg clearance? | | | |
| Is the chair height adjustable through a suitable range? | | | |
| Has the chair got a suitable back support? | | | |
| Is there an adjustable footrest? | | | |
| Can the operator get on/off chair safely and unimpeded? | | | |
| Does the conveyor belt allow the operator to slide articles across the scanner onto another belt or area? | | | |
| Seated and standing workstations | | | |
| Is the equipment such as scales, scanner and eftpos machine within easy reach? | | | |
| Is storage of articles (eg bags, rubbish bin) underneath the workstation minimised to allow unimpeded leg clearance? | | | |
| Is the floor surface non slippery? | | | |
| Is there enough workspace around the checkout workstation for the operator to complete tasks unimpeded? | | | |
| Is through traffic minimised? | | | |
| Working posture | | | |
| Can work be completed in an upright supported posture? (If there is any forward reaching more than 30cm away from the body, reaching above shoulder height, bending below mid thigh height, twisting or sideways bending by the operator then work cannot be completed in an upright supported posture) | | | |

| Risk factors to consider | Yes | No | N/A |
|--|------------|-----------|------------|
| Duration and frequency of task | | | |
| Does the operator have the opportunity to complete a variety of tasks? | | | |
| Does the operator take regular breaks? | | | |
| Does the operator take micro pauses? | | | |
| Can the operator avoid sitting or standing for prolonged periods of time? | | | |
| Force applied | | | |
| Is the handling of heavy items minimised by strategies such as scan cards, hand held scanners, PLUs or detachable tickets? | | | |
| Can the operator slide rather than lift loaded shopping bags? | | | |
| Is lifting from a seated position minimised/eliminated? | | | |
| Is there minimal force required to move items across the scanner? | | | |
| Work organisation | | | |
| Is there task rotation and/or job enlargement implemented? | | | |
| Skills and experience | | | |
| Is the operator familiar with the task? | | | |
| Have the operators received adequate training? (Training should include elements such as optimal work posture, use of scan cards/hand held scanners, task rotation, taking breaks, micro pause, propping, changing positions) | | | |
| Individual factors | | | |
| Have the individual characteristics of the operators been considered eg age, gender, physical dimension, pregnancy, and any disabilities or other conditions? | | | |

A “no” response indicates an increase in the risk of injury.

This form is should be used in conjunction with this Industry guidance document Checkout workstations in retail – safe design and work practices.

More information can be found in the Code of practice for manual handling and the national Code of practice for the prevention of occupational overuse syndrome.

Appendix 1

Risk assessment form - checkout workstations - - Part 2

| | |
|-----------------|---------|
| Workplace name: | Page no |
| Work area: | |
| Name | Date: |

| No | Hazard identified | Assess the risk ¹⁾ <ul style="list-style-type: none"> · likelihood · consequence | Identify proposed action | Responsible person | Action completed |
|----|-------------------|---|--------------------------|--------------------|------------------|
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| | | | | | |

1) Use risk rating table. For an example refer to the WorkSafe publication *The first step – managing safety and health in your workplace*.

Further information

Legislation

Occupational Safety and Health Act 1984

Occupational Safety and Health Regulations 1996

Commission for Occupational Safety and Health documents

Code of Practice: Manual Handling

Approved Code of Practice: Prevention of Occupational Overuse Syndrome [NOHSC:2013(1994)]

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www.worksafe.wa.gov.au

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www.docep.wa.gov.au

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