

MANUAL HANDLING GUIDE FOR NURSES



Manual Handling Guide for Nurses

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Disclaimer

This publication contains general information about the obligations of employers and some others under the NSW occupational health and safety laws. This publication gives some suggestions for complying with these obligations, especially as they apply in the health and community services sector.

This publication is not intended to represent a comprehensive statement of the law as it applies to particular problems or individuals or as a substitute for legal advice. Full details of legal obligations and responsibilities are set out in the occupational health and safety legislation. If you refer to the legislation, you should take care to ensure that you use the most up-to-date version, available from www.legislation.nsw.gov.au. You should seek legal advice if you need assistance on the application of the law to your situation.

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FOREWORD

Nurses need to be proactive in protecting themselves from injury. To assist nurses to integrate manual handling principles into nursing practice, the NSW Nurses' Association was successful in obtaining WorkCover NSW Injury Prevention Education and Research Grants Scheme funds to develop manual handling resources specific to the nursing profession. The first edition of the Guide, published in September 1998 was the outcome of this grant. The Guide has now been reviewed and updated through the WorkCover NSW Health and Community Services Industry Reference Group.

This Guide aims to assist nurse managers and those with supervisory responsibilities to implement a manual handling program. It is designed to assist managers regardless of the service setting and is relevant to acute, community, nursing home and hospital services alike. The aim of this document is not to duplicate information – rather it focuses on nursing issues and contexts.

The process of managing manual handling at a ward, unit or service level is described. Advice for some specific manual handling problems commonly encountered by nurses is provided, along with a number of illustrative case studies.

This Guide focuses on a wide range of manual handling issues encountered in nursing and is not confined to back care and patient handling. There is already an abundance of information on back care and lifting and transferring patients and it was not considered necessary to include this material in detail.

This Guide can be used in conjunction with other resources such as *Implementing OHS in Residential Aged Care: The Guide 2001*; the NSW Health Department *Policy and Best Practice Guidelines for the Prevention and Management of Manual Handling Incidents in NSW Public Health Services* (Circular 2001/111); *Manual Handling Policy*, NSW Nurses' Association, 2001 and the *National Standard and Code of Practice for Manual Handling*, 1990¹. These and other references can be found in the Resources section at the back of this Guide.

This Guide is an information publication only. It does not impose any new legal requirements on employers or others. This Guide makes suggestions about particular strategies or courses of action that may be of assistance in meeting the requirements of the occupational health and safety legislation. Not all of the suggestions may be suitable for your situation. It is not necessary for you to adopt any or all of the suggestions, as long as your obligations under the OHS legislation are being met in another way.

The case studies, practical examples, forms and checklists referred to in this Guide are provided as examples only. They may be of assistance in developing manual handling programs for other workplaces. However, when developing or revising your own manual handling program you will need to take into account the particular circumstances of your own workplace. Your obligations under the occupational health and safety legislation will not be met by simply adopting the strategies referred to in this Guide.

Terminology

Patient: For simplicity, the term 'patient' has been used in place of the various other descriptors such as 'client' and 'resident'.

Incident: The term 'incident' is used to describe events that result in injury or property damage or which could have resulted in injury or property damage.

¹ These and other documents are subject to review. You should take care to ensure you use the most up-to-date version.

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We would like to acknowledge the support and assistance of the following:

- Staff and patients of the following organisations who took part in the original project and/or the review:

- Sydney Home Nursing Service
- UnitingCare Mayflower Nursing Home
- Westmead Hospital
- Southern Highlands Private Hospital
- The Home Care Service of NSW (now part of the Department of Ageing, Disability and Home Care)
- Nepean Hospital
- Manning Base Hospital
- Ambulance Service of NSW
- Don Geddes Catalina Memorial Aged Care Centre
- Fairfield Health Service.

- The following manufacturers for supplying products for evaluation:

- R Moore Equipment Pty Ltd
- National High Lift Pty Ltd
- Medicraft Australia Pty Ltd
- Regency Medical Supplies
- Murphy Furniture Pty Ltd
- Admed Hospital Supplies.

- Members of the Project Advisory Committee
- NSW Health, for their assistance in coordinating the review of the document
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- Christine Aickin and Marcia Lusted for their work in preparing the case studies and reviewing the original Guide.

Section 1 – OHS is a legal requirement

1.1 Responsibilities for managing manual handling

The *Occupational Health and Safety Act 2000* (OHS Act) and the *Occupational Health and Safety Regulation 2001* (OHS Regulation) place the primary responsibility for managing manual handling risks on the employer.

Employers' general obligations

Section 8 of the OHS Act states that employers must ensure the health, safety and welfare of all employees at the workplace. In ensuring health and safety, the employer must provide safe work practices, safe equipment and substances, safe premises and work environment, adequate supervision and information, education and training. Section 8 also makes employers responsible for the health and safety of non-employees at the workplace. This includes patients, visitors, contractors and others in health and aged-care workplaces.

Obligations with respect to risk management and consultation

Chapter 2 of the OHS Regulation imposes obligations on an employer to identify foreseeable hazards that may arise from the conduct of an employer's undertaking, to assess the risks of those hazards and to eliminate the risks or, if not reasonably practicable to do so, to control the risks. Risk management is proactive, systematic and methodical.

In addition, Part 4.4 of Chapter 4 of the OHS Regulation requires employers to follow a systematic risk management process specifically for manual handling hazards. Employers must provide training and consider the design of work practices, equipment and the work environment in developing risk control strategies. Where risks cannot be designed out, employers must provide adequate and suitable equipment. Clause 80 of the OHS Regulation states that manual handling risk must be controlled by means other than team lifting as far as reasonably practicable. This has considerable impact on the way patients are handled by nurses and carers.

Division 2 of Part 2 of the OHS Act also makes consultation with employees during the risk management process a mandatory requirement

Note: More information on risk management and consultation is available in the WorkCover publications *Risk Assessment Code of Practice 2001* and the *OHS Consultation Code of Practice 2001* available from the WorkCover website or by calling the WorkCover Assistance Service on **13 10 50**.

Employees obligations

Section 20 of the Act states that employees must co-operate with their employer and take reasonable care for the health and safety of others in the workplace. Among other things, this means that employees should report hazards and incidents and follow safe work practices and use equipment according to the workplace training that they receive.

Section 21 of the Act states that a person must not, intentionally or recklessly, interfere with or misuse anything provided in the interests of health, safety and welfare under occupational health and safety legislation.

1.2 Consultation

Division 2 of Part 2 of the OHS Act states that employers must consult with their employees on matters that affect their health, safety and welfare at work. Further information about OHS consultation is contained in the WorkCover publication *OHS Consultation Code of Practice 2001*.

The purpose of the duty to consult is to ensure there is meaningful and effective consultation about matters that may affect employees' health, safety and welfare with a view to reducing workplace injury and disease.

The OHS Act provides three options for consultation:

- an OHS committee comprised of employer and employee representatives
- OHS representatives elected by employees
- other agreed arrangements between the employer and their employees.

OHS committees can be formed when:

- an employer employs 20 or more people and the majority of those people request the establishment of an OHS committee
- WorkCover NSW directs an OHS committee to be established
- an employer decides to have one.

An OHS representative is to be elected if at least one employee requests this or if so directed by WorkCover.

Functions of OHS committees and OHS representatives

An OHS committee or an OHS representative has the following functions (section 18 OHS Act):

- to review OHS measures to ensure people's health and safety at work
- to investigate risks to health and safety at the place of work
- to attempt to resolve the risk in consultation with management, but if unable to resolve risk, then request an investigation by a WorkCover inspector.

Section 15 of the OHS Act sets out when consultation is required. Clause 27 of the OHS Regulation deals with an employer's obligations that are related to the duty to consult.

Generally, any information that will assist in protecting employees' health, safety and welfare can be the subject of consultation. Specifically, this may include:

- risks, and their elimination and control
- work processes and procedures
- OHS consultation arrangements
- training needs
- adequacy of workplace amenities (toilets, washing facilities, meal rooms, lockers, etc)
- accidents, incidents, illnesses, injuries or near misses (in a way that protects the confidentiality of personal information)
- changes to or problems with premises, work environment, plant, equipment, systems of work or substances used for work before those changes are made
- OHS policies and procedures, including risk assessments and control
- investigation of accidents
- new information relating to risks at the workplace.

OHS consultation should involve management, employees and others including temporary staff, labour hire and shift workers.

Effective OHS consultation

- Should occur early in the decision making process (and must occur when required by section 15 of the OHS Act).
- Values and includes input from all parts of the organisation.
- includes the perspective of visitors, contractors, patients, staff, volunteers and students on placement, where appropriate.
- Is planned, genuine and collaborative.
- Is encouraged on a proactive and ongoing basis.
- Includes a focus on outcomes that result in improvements to the systems for managing health and safety.

OHS consultation may be undertaken through:

- meetings, workshops, suggestion boxes and surveys
- establishing OHS consultation arrangements and providing appropriate training
- involving employees in the identification and assessment of hazards, development of control strategies, evaluation of controls and assessment of equipment
- having OHS as a standing agenda item for meetings, particularly where there are few workers (five or less).

Section 2 – Getting started

2.1 Advice for Managers

Planning

Becoming an advocate for the manual handling cause and implementing your organisation's occupational health and safety and manual handling policies and programs are two important roles for managers. Managers need to have confidence in their ability to carry out manual handling programs – training may be required to assist them to problem solve effectively and be able to fully implement the risk management approach. Some of the strategies below may be helpful in implementing manual handling policies and programs.

To begin, it is often helpful to identify employees who are interested in occupational health and safety and involve them in carrying out practical aspects of manual handling projects. Involving staff helps raise their enthusiasm and allows them to contribute their practical knowledge.

Plan the approach so that the activities are manageable. The flow chart for solving manual handling problems may assist (see page 11). Most facilities have systems for reporting risks and incidents. It may be helpful to use incident reports to compile a manual handling hazard register (a sample register is included in Guideline 2). Also, consider distributing a risk identification questionnaire on a frequent basis, say annually, asking employees to list what they believe are manual handling risks in their jobs. A list of manual handling risks identified by staff can be developed. From this list, you can prioritise high-risk tasks and situations and decide which ones you will assess and develop control strategies for first – this forms your task checklist.

For the first project, choose a risk that affects all or most nursing staff. Choose something simple. Once the risk assessment and control development process has been mastered, work through the remainder of the list in your manual handling hazard register.

Not all manual handling risk controls are developed by assessing a task. Eliminating manual handling, changing work practices, and developing criteria for purchasing equipment are all powerful methods of controlling risks. They should not be ignored because they are not on the task checklist. An example is the Mayflower Nursing Home bed selection case study, which is included in this Guide. It does not use task assessment.

Specific requirements relating to hazard identification and risk assessment are set out in the occupational health and safety legislation.

Influencing change

Remember that staff are being asked to change the way they work. This can be confronting for many people. If they are going to change it is important to provide an environment that encourages them to do so. Commitment and consultation are fundamental to this process. However, even when the environment is perfectly attuned for changes it is important to remember that staff will respond at different rates. There will be some who are very keen and will devise better ways of handling patients and, in some instances, it may be difficult to contain their enthusiasm. Others will begin to use new equipment only after they have been trained in its use and see others using it. Still others may take longer and need one-on-one coaching while others may not be at all interested. The key to achieving change is to maintain focus on the vision and keep pushing in that direction.

Note that employers' responsibilities under the occupational health and safety legislation cannot be ignored or delayed due to difficulties in implementing control or management strategies.

This Guide can be used at various stages of the manual handling risk management process or when there is a specific problem to address. The case studies provide examples of how specific manual handling problems have been addressed in real life situations. They have been chosen to cover a range of service types, problems and control measures. They are not necessarily applicable to other situations and are provided for information only.

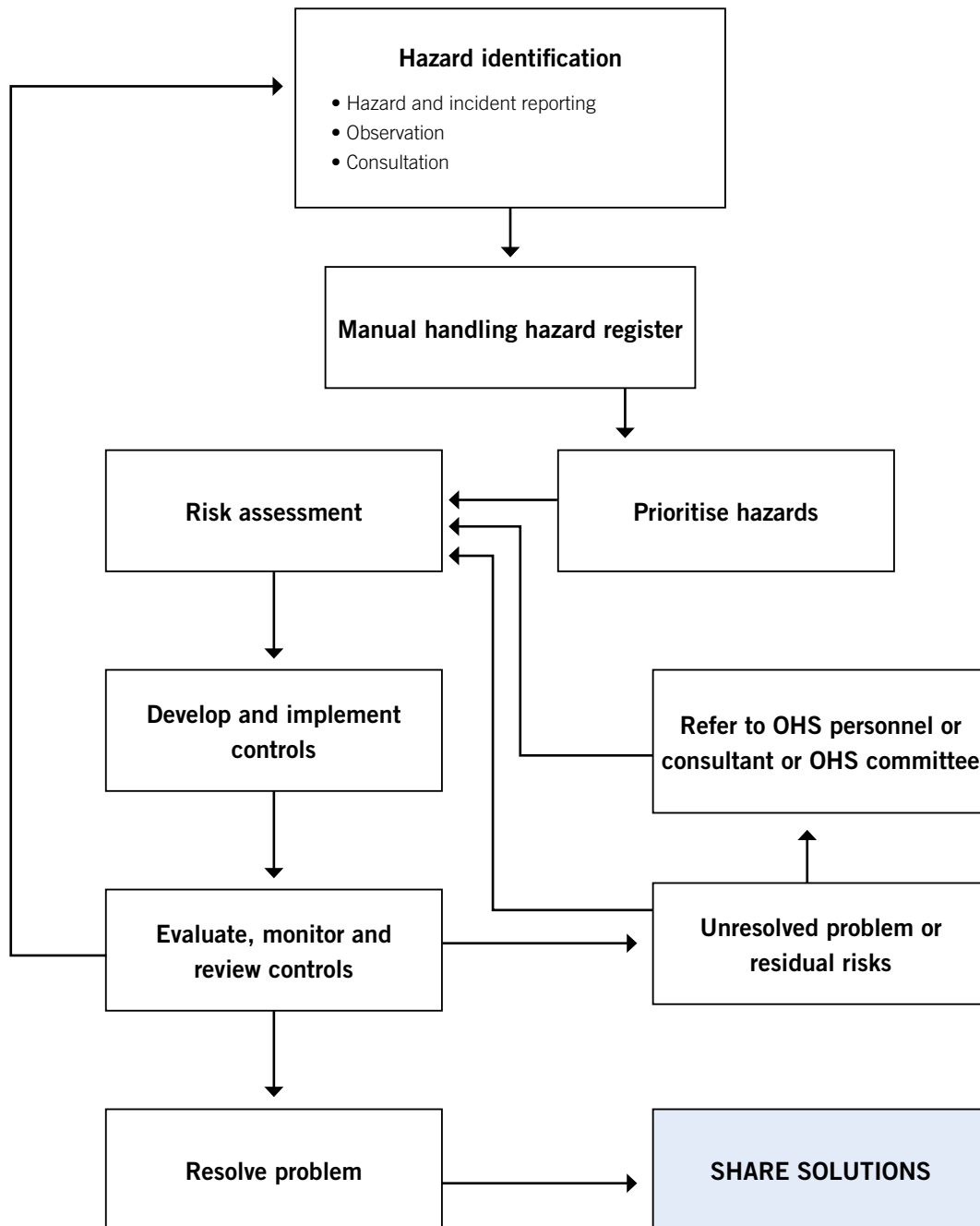


Figure 1 Flow chart for solving manual handling problems

2.2 The nature of nurse manual handling injuries

Manual handling remains the single largest cause of injuries to nurses. Importantly, manual handling injuries are a significant cause of the loss of nurses from health and community services. Other occupational groups at risk include hospital cleaners and ward assistants.

At the time of the first edition of this Guide the *Health Industry Classification Project (1997)* reported the following as major contributors to nurse injuries:

- manual handling of people
- muscular stress with no objects being handled
- slips, trips and falls
- manual handling of trolleys
- the use and adjustment of beds
- handling of linen and lead aprons.

Sprains and strains were the main types of manual handling injury. Of injuries to registered nurses, 40 per cent involved the back, 12 per cent the upper limbs, and 9 per cent the lower limbs. Of injuries to enrolled nurses, 30 per cent were to the back and 17 per cent to the upper limbs. Beds were involved in nearly all patient-handling activities where injuries occurred, eg repositioning and transferring patients.

The number of injuries was unrelated to the number of people participating in the patient lift. As many injuries occurred during team lifting, as when the patient was lifted by one person. Very few injuries involved the use of hoists.

Although some of the above still holds true for health and community services, the *Persistence in Partnership Short Report, 2003* which details an evaluation of back injury intervention by WorkCover NSW in the NSW Health Services Industry, reports that there was a 40 per cent reduction in the incidence rate for major back injury claims between 1994/95 and 2000/01.

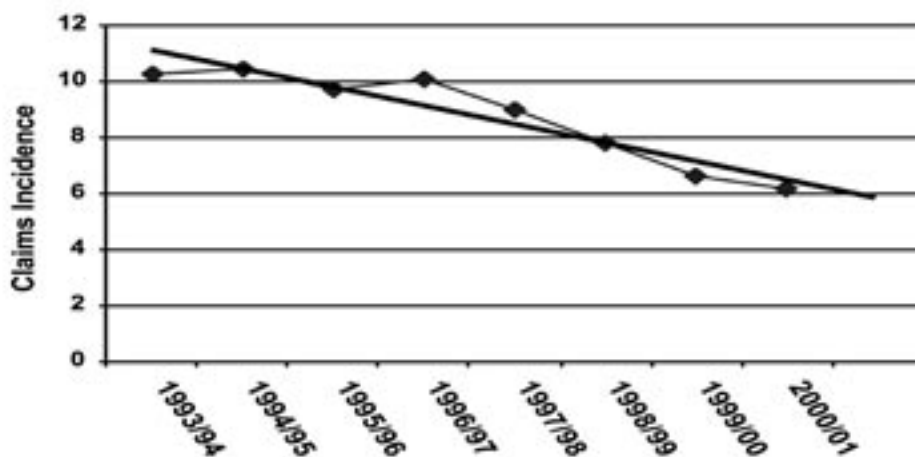


Figure 2 Trends in Major Back Injury Claims Incidence Rates in the Health Industry 1993/4 to 2000
(Source: *Persistence in Partnership Short Report, 2003*)

This report also indicates that there have been a number of interrelated reasons for the reduction in incidence rate that led to a sustained focus on systematic risk management. This has resulted in a major cultural change for the health industry. It is now generally understood that 'good lifting technique' is not the answer to back injury prevention. For many years, this had been the thrust for reducing injury, despite the fact that injury rates were not improving. Data is now also available which indicates that the steady implementation of risk management and manual handling injury prevention programs has coincided with the reduction in incidence of back injury as detailed below.

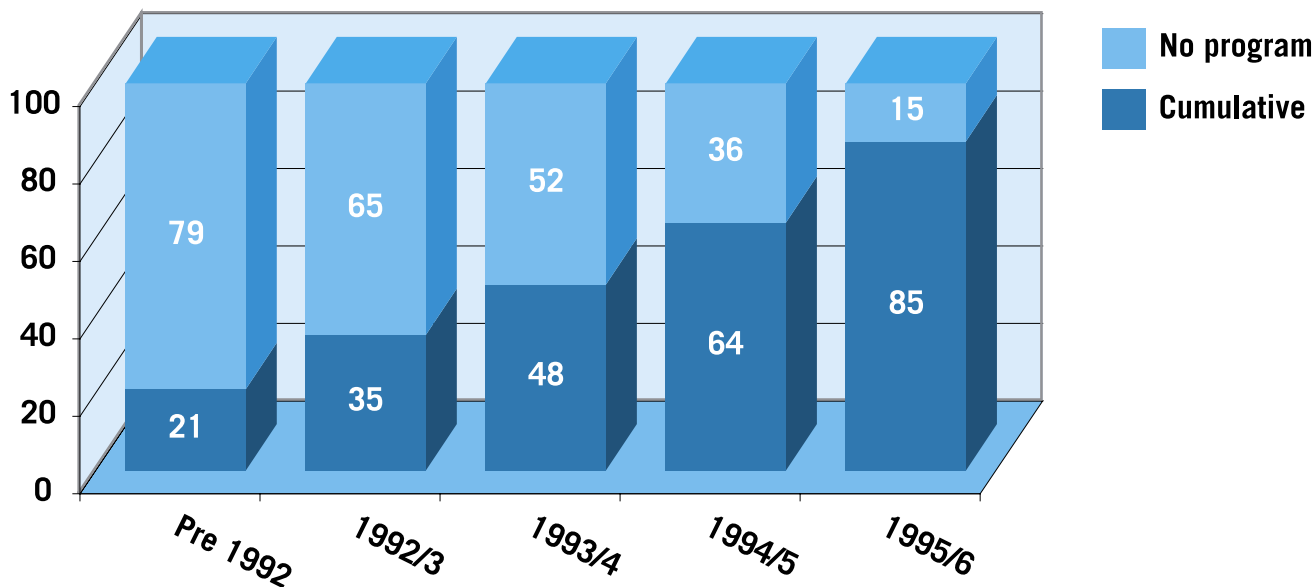


Fig
in Partnership Short Report, 2003)

However, the risk of manual handling injuries in health and community services continues to be exacerbated by a number of variables. These include the design of facilities and selection of fixtures, furniture and equipment; the fluctuating nature of physical illnesses; patient resistance to assistance; a patient's medical condition; patient aggression towards staff; and staffing and skill mix. Continued effort is required to reduce the incidence of manual handling injury.

Section 3 – Information guide

The following guidance contains suggestions about particular strategies that may be of assistance in meeting the requirements of the occupational health and safety legislation. Not all of the suggestions may be suitable for a workplace situation. It is not necessary to adopt any or all of the suggestions, as long as every obligation under the OHS legislation is being met in another way.

The case studies, practical examples, forms and checklists referred to the following guidelines are provided as examples only. They may be of assistance in developing manual handling programs for other workplaces. However, when developing or revising your own manual handling program you will need to take into account the particular circumstances of your own workplace. Your obligations under the occupational health and safety legislation will not be met by simply adopting the strategies referred to in this Guide.

3.1 How to manage manual handling problems

Manual handling means any activity requiring the use of force exerted by a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any animate or inanimate object. Incidents arising from any of these activities may be described as manual handling problems. In health and community services facilities, nearly 46 per cent of all compensable injuries are due to manual handling.

The safest workplaces are generally the most efficient workplaces. Manual handling injuries can be regarded as inefficiencies or failures of the work system. Injuries have significant cost, productivity and ethical implications and their causes need to be eliminated. Costs and productivity losses may stem from:

- workers compensation and rehabilitation costs
- administration of claims and rehabilitation
- hiring and training of replacement staff
- hiring temporary or agency staff who are generally less productive than regular staff, because they are unfamiliar with the workplace
- downtime in providing first aid to injured employees or patients
- investigation of incidents
- potential for legal liability if people are injured
- injuries to patients eg falls, fractures, skin tears
- hidden costs to the injured worker including ongoing pain and disability.

Change management

Managing manual handling risks should be regarded as a cyclical process aimed at continuous improvement: ie it is not just work practices that may change – keep the message broad. There are seven steps involved in achieving change. Planning and resources are required to put them into place. They are:

1. developing policies and programs (based on the following six steps)
2. consulting with employees during the identification, assessment, control and evaluation process
3. identifying manual handling hazards and assessing the related risk
4. developing and implementing control measures to eliminate or minimise the risks
5. training staff in their role and responsibilities in risk management, manual handling risk factors, equipment and safe work practices
6. promoting safe manual handling, maintaining awareness amongst staff
7. evaluating, reviewing and improving all of the above to ensure that control measures are up-to-date and effective.

It is important to remember that improvements often occur slowly. If the focus is at the ward or unit level, the rate of change should be faster than in a large organisation. It is only as planned changes are put in place, that it will be noticed that staff are doing things differently. Action planning along with allocation of responsibility and resources for each step is a critical part of the cyclical process of change. Once the planning is completed, it is imperative that training is undertaken to give staff the knowledge and skills to do what is required of them. Note that employers' responsibilities under the occupational health and safety legislation cannot be ignored or delayed because of difficulties in implementing control or management strategies.

Minimal lifting programs

Many organisations have introduced 'minimal lifting' or 'no lifting' approaches as a part of their manual handling risk management. This type of approach focuses on the use of equipment to reduce injuries caused by patient lifting and other patient handling. The provision of manual handling equipment and aids is a risk control measure that attempts to control risks at their source. This approach involves:

- consulting with staff in the trial and purchase of manual handling equipment
- providing appropriate lifting aids and equipment to assist staff in moving/transferring patients
- educating and training of staff in the correct use of the aids and equipment, in manual handling techniques and in patient assessment
- assessing patients to determine their specific manual handling needs and standardising the method of handling
- encouraging appropriate patient mobility and independence
- prohibiting manual lifting (including team lifting) except in emergencies;
- providing adequate levels of appropriately skilled staff
- enforcing the use of equipment through supervision and post-training support.

Part 4.4 of the OHS Regulation imposes particular requirements on employers with respect to manual handling risks.

This Guide provides advice for nurses on the implementation of a manual handling risk management process and includes the principles of the minimal lifting approach. It assumes the organisation already has policies and programs supporting the implementation of risk management strategies. If policies and programs have not been developed, relevant advice can be found in the *ANF (Vic Branch) No Lifting Implementation Guide & Checklist, 1998*, *Implementing OHS in Residential Aged Care: The Guide 2001* and other documents listed in the Resources section.

Consultation

Consultation is a key element in change management, effective risk identification and assessment, and finding solutions to manual handling problems. It is also a requirement of the OHS Act and OHS Regulation. Consultation should involve people directly or indirectly connected with the equipment, the work environment and the activities performed.

The nurse manager can promote awareness of manual handling, and create a team approach to manual handling risk management. It may also help to identify a ward advocate who can take some responsibility for the practical aspects of manual handling projects and help to motivate other nurses.

Nurses and other staff are an invaluable source of information. Their knowledge can be tapped at all stages of the risk management process. Consultation means all staff are part of the process, the risk management workload is shared, and changes are then more likely to be accepted.

Information about employers' duties in relation to consultation is contained in the OHS Act and OHS Regulation. More information is contained in the WorkCover publication *OHS Consultation Code of Practice 2001*, on the WorkCover website www.workcover.nsw.gov.au or by calling **13 10 50**.

Ways of consulting can include:

- talking with staff who perform the manual handling activities, either individually or in groups, to learn from their experiences
- forming a group or using an existing one that represents the different classifications of workers in your area
- inviting discussion of manual handling issues at staff meetings and handover
- conducting brainstorming sessions for risk identification and solutions
- involving the workplace occupational health and safety committee or occupational health and safety representatives in dealing with complex issues, or issues with broader relevance to the workplace.

Remember that changes made to your system of work may have an adverse effect on others eg calling the ambulance to lift a patient off the floor because you don't do it anymore in your ward or unit and you don't have a hoist. In effect, you may be transferring manual handling injury risks from one organization to another.

Consulting with ambulance officers, maintenance staff, cleaners, kitchen staff, physiotherapists, doctors, occupational therapists etc about manual handling changes that impact upon them will minimise the likelihood of the risk being passed onto other staff members or organisations and increase acceptance of the changes.

Hazard identification and risk assessment

Employers have responsibilities under the OHS legislation to carry out hazard identification and risk assessment procedures. There are also general duties and specific duties relating to manual handling. More information about these responsibilities is available from the relevant legislation, in the WorkCover publication *Risk Assessment Code of Practice 2001*, from the WorkCover **website www.workcover.nsw.gov.au** or by calling **13 10 50**.

The following information may assist in meeting your responsibilities under the legislation.

Systematic hazard identification and risk assessment acts as a guide to more effective manual handling risk management.

Hazard identification and risk assessment can lead to a clear understanding of the factors contributing to the hazard, the likelihood of an incident occurring, and the seriousness of the potential consequences. First, the hazard needs to be identified, then closely analysed (assessed) and prioritised. You may find that manual handling injuries are not always caused by the activity the person was doing at the time, but may result from the cumulative effect of other factors and events.

Hazard identification

'Hazard identification' means finding potential causes of manual handling problems. The process is ongoing. Hazards are not always easy to identify. They are often a combination of the working environment, equipment, individuals, the load and the activity to be performed.

There are two basic ways in which hazards can be identified:

- when an accident, injury or near miss is reported and action is taken to prevent recurrence and
- when a proactive and planned approach is taken by looking for potential risks before they result in an injury.

Both pathways need to be actively pursued to minimise injuries. Methods for identifying hazards include:

- analysis of records, for example:
 - checking hazard reports
 - examining staff turnover and absenteeism
 - analysing incident reports (are injuries associated with particular activities, work areas or equipment?)
- consultation, such as:
 - speaking to injured employees and other workers who have performed the activity in question
 - finding out if there are complaints about manual handling activities
 - asking questions about the environment, equipment, the person, the load and the task performed
 - using a questionnaire to collect information about risks (sometimes anonymity may provide more useful information)
 - collecting as much information as possible about the events that preceded reported incidents.
- observation, for example:
 - observing the activity. This should be carried out by more than one staff member. Note the environment, the equipment, the person, the activity and the load
 - filming the activity being performed (with the consent of participants)
 - conducting regular inspections of work practices, equipment and the work environment.

In the first instance, all activities should be observed to determine if there is a risk associated with them. Set a time frame in which to complete this assessment.

A sample checklist is provided (on page 23) to help with hazard identification and risk assessment.

List and prioritise the hazards

After identifying the hazards, it may assist in meeting statutory obligations to list them in a 'manual handling hazard register'. This will help by providing a record of risk assessment and control activities. More information on manual handling hazard registers is provided in Section 3.2. You are not required by law to keep a manual handling hazard register.

Hazards should be prioritised in relation to the likelihood of occurrence and the possible severity of the consequences. All hazards, however, must be controlled no matter what the priority rating. There are many different ways to do this including the WorkCover NSW *HazPak*, NSW Health *Severity Assessment Code Matrix*, etc. Prioritise the hazards in consultation with employees. You may wish to develop a set of criteria to assist prioritisation. Consider, for example:

- the number of incidents, hazard reports and complaints already associated with the problem
- the severity of injuries or potential injuries
- the number of persons likely to be exposed to the risk

- the number of times a person is exposed to the risk within a given period
- the impact on operational requirements if an incident occurs
- the potential costs and productivity losses if an incident occurs
- the ease with which the risk can be remedied.

Risk assessment

To assess the risk means to closely analyse the risk factors that have been identified and the potential for an injury to occur. The risk assessment provides a clear understanding of the underlying causes and contributing factors.

Some risk factors commonly associated with manual handling injuries to nurses are:

- undesirable postures
- frequency of movements
- duration of movements
- forces and weights involved
- characteristics of the patient, eg level of dependency and cooperation.

Clause 81 of the OHS Regulation provides that in carrying out a risk assessment in relation to manual handling, employers must take into consideration (where relevant) the following factors:

- actions and movements (including repetitive actions and movements)
- workplace and workstation layout
- working posture and position
- duration and frequency of manual handling
- location of loads and distances moved
- weights and forces
- characteristics of loads and equipment
- work organisation
- work environment
- skills and experience
- age
- clothing
- special needs (temporary or permanent)
- any other factors considered relevant by the employer, the employees or their representatives on health and safety issues.

The following suggestions may assist in meeting your statutory requirements.

Risk assessment is best carried out by a small group. While carrying out the assessment, observe the activity first hand. Use a checklist to note the information required and analyse specific contributing factors. Make comments on each identified factor's relative contribution to the risk. Talk to the workers performing the activity. Include on the checklist the information they provide, particularly in relation to aspects that are not readily observable (eg degree of difficulty or discomfort). It may also help to include measurements such as weights, dimensions, forces, and distances.

It is a good idea to video the task and view the video while using the checklist to note information required. In this way actions may be viewed more than once and video features such as slow motion can be used to advantage. The videos can also be good training tools.

The assessment should also include a description of where the activity fits into the overall work process, eg how getting patients out of bed fits in with the process of showering them or taking them to theatre. It may be possible to eliminate the assessed activity altogether by using a different system of work.

The assessment stage will lead to the control stage of the process by providing ideas on the measures that are needed to eliminate or reduce the risk. Each ticked risk factor has the potential to be eliminated or to have its impact reduced.

Risk control

Once risks have been identified and assessed, control measures must be developed in consultation with employees and implemented. The hierarchy of control is used as a guide. Sometimes the best control measures seem beyond reach. Where this is the case, consider short, medium and long-term solutions. If, for example, remodelling the bathroom is not an option this year, plan for it in next year's budget and develop interim measures to reduce risk.

Hierarchy of control

The first goal of risk management is the **elimination** of the risk. If this is not practicable, clause 5 of the OHS Regulation sets out a general hierarchy of control to minimize risks to the lowest level reasonably practicable. The hierarchy of control sets out control measures preferentially, with the most effective at the top of the hierarchy and the least effective at the bottom. It is common to find that the adopted control measures involve more than one level of the hierarchy used in combination.

Employers are required to combine the risk control measures to minimise risk to the lowest level reasonably practicable if no single measure is sufficient for that purpose.

Clause 80 of the Regulation sets out a hierarchy of control that *specifically* relates to manual handling and states the following:

“Clause 80 Employer to control risks

(1) An employer must ensure that:

- (a) all objects are, where appropriate and as far as reasonably practicable, designed, constructed and maintained so as to eliminate risks arising from the manual handling of the objects, and
- (b) work practices used in a place of work are designed so as to eliminate risks arising from manual handling, and
- (c) the working environment is designed to be, as far as reasonably practicable and to the extent that it is within the employer's control, consistent with the safe handling of objects.

(2) If it is not reasonably practicable to eliminate a risk arising from manual handling, an employer must design the work activity involving manual handling to control the risk and, if necessary, must:

- (a) modify the design of the objects to be handled or the work environment (to the extent that it is under the employer's control), taking into account work design and work practices, and
- (b) provide mechanical aids or, subject to subclause (3), make arrangements for team lifting, or both, and
- (c) ensure that the persons carrying out the activity are trained in manual handling techniques, correct use of mechanical aids and team lifting procedures appropriate to the activity.

(3) An employer must, as far as reasonably practicable, achieve risk control by means other than team lifting.”

The following are practical examples of how this hierarchy might apply to manual handling.

1. Elimination

Eliminate a risk by eliminating all or part of an activity or improving design of equipment or work environment.

2. Design and redesign

If the activity cannot be eliminated, control the risks through the design, redesign or modification of:

- workplace layout
- equipment and furniture
- housekeeping, including floor surfaces, clutter, electrical cords, preventive maintenance
- organisation of work, such as redistributing work to eliminate peak loads
- work activities, such as reducing the number of times a transfer occurs.

3. Manual handling aids

If redesign does not control the risk adequately, use manual handling aids such as transfer boards, slip sheets and hoists.

4. Procedures

If redesign does not control the risk adequately, develop procedures and policies to reduce manual handling risks. For more information, see Section 3 Manual handling policies and procedures as control measures.

5. Education

Training of staff in task specific techniques such as patient-handling techniques, is an essential element of risk control but it is only one aspect of the control process. It should not be used as the sole control measure. Consider educating the community in what to expect when they enter the hospital, nursing home, residential facility or community nursing service by providing pamphlets on the use of manual handling aids and demonstrating the use of aids in local shopping centres and day centres for example.

Looking for solutions

In deciding on control measures, the following techniques may be useful:

- risks can be reduced by eliminating or reducing the impact of the risk factors ticked in the checklist
- develop criteria (based on the identified risk factors) to evaluate the various solutions which may be proposed, and to decide which one or which combination would be the most successful
- conduct a brainstorming session in your group
- acquire information about solutions and equipment by contacting:
 - the person who purchases your equipment
 - other similar wards or services to see what solutions they are using
 - sales or technical representatives of equipment suppliers
 - WorkCover NSW or the NSW Nurses' Association
 - OHS staff/professionals
 - conduct a literature review.
- when purchasing equipment, develop selection criteria in the form of a checklist. Always conduct user trials on equipment
- contact suppliers to discuss improvements to their equipment. Some manufacturers are willing to modify their equipment to suit your needs

- use internal and external expertise. For example, ask the maintenance engineer to advise on design of solutions or modification of equipment, or seek help from an ergonomist
- following consultation with maintenance staff it may be appropriate to refer back to designer/ manufacturer or supplier
- use a combination of controls to achieve the greatest reduction in risk.

Promote and maintain

For ongoing success, aim for continuous improvement in your manual handling program. Maintain staff awareness through education and consultation, by actively responding to reports of hazards and incidents, and through supervision.

Evaluate, review and improve

Evaluate, review and improve manual handling risk management performance by:

- conducting an evaluation to determine the ongoing effectiveness of the controls and whether the controls have inadvertently introduced new risk factors (use the checklist)
- asking employees whether the solution is acceptable and effective and ensuring they understand the importance of their feedback
- maintaining a watching brief over changes to the work or the workplace
- maintaining a watching brief over incident statistics, responding to hazard reports and conducting regular inspections
- developing indicators to evaluate and review performance. These should be based on legislative, policy and program requirements. Injury rates are not a sufficiently sensitive measure at the ward or unit level.

Performance indicators

Evaluation and review should be an ongoing process. Clause 12 of the OHS Regulation sets out when risk assessments and associated control measures are to be reviewed.

It may be of assistance to audit the risk management system at least annually.

Performance measurement may be enhanced by selection of performance indicators. Performance indicators are criteria that can be used to ensure that the components of the manual handling program are being implemented and are working successfully. Indicators should reflect significant problem areas, components of the risk management program, and the aims and objectives of the program.

Indicators should not be based solely on injury rates. Injury rates can be significantly affected by factors other than risk management program performance, eg factors such as changes in the nature of services provided, and contracting out of services. In individual units or small facilities, random variations can appear as large changes in injury rates.

Performance indicators can include:

- implementation indicators, eg the number of tasks identified and assessed and the number of control plans developed
- training indicators, eg the proportion of staff trained in manual handling, the proportion of staff receiving induction training within a specified time
- management commitment indicators, eg evidence of implementation of manual handling policies and programs, inclusion of manual handling accountabilities in job descriptions and performance appraisals, and the attendance of senior staff at occupational health and safety and manual handling training

- consultation indicators, eg the number of staff involved in risk identification, risk assessment and control development, the frequency with which manual handling issues are discussed at meetings
- injury rate indicators, eg the rate of injuries, types of injuries, number of days lost, and the cost of injuries.

Injury indicators are generally not a good statistical measure of performance at the ward level, particularly over short periods of time, because of the relatively small number of incidents involved.

Useful resources for reviewing and evaluating manual handling risk control programs include the NSW Health Department's *Numerical Profile* and the *ANF (Vic Branch) No Lifting Implementation Guide & Checklist*.

Evaluation and review activities should be followed up with action plans which detail what needs to be done in the period prior to the next evaluation and review.

Documentation

Documentation is particularly important as it details a record of activities and evidence of compliance with legislation. Documentation also provides a means of consistent communication on risk management and assists with monitoring and performance evaluation and review. The types of documentation that should be kept include:

- hazard and incident reports
- manual handling hazard register
- risk assessments
- control strategies
- training records
- consultation with employees
- injury data
- incident investigations
- results of evaluations and reviews
- results of equipment trials
- records of meetings where manual handling is discussed
- audit reports.

Retaining these documents may help to establish that you have complied with your legislative requirements. However, you are not legally required to keep all of these records. Employers are legally required to keep a register of injuries (s63, *Workplace Injury Management and Workers Compensation Act 1998*), and to keep certain records relating to consultation (clauses 27 and 31, OHS Regulation). The OHS and workers compensation legislation contains other related requirements.

More information about these requirements is contained in the relevant legislation, or from WorkCover on **13 10 50**.

Sample Form

This form is provided as an example only. It may help as a guide in developing manual handling programs. When developing or revising your own manual handling program you will need to take into account the particular circumstances of your own workplace to make sure you meet your obligations under the legislation.

This is not an official form. You are not legally required to complete it or to use it as part of your manual handling program.

Fairfield Health Service

MANUAL HANDLING RISK MANAGEMENT FORM

Employers are required under the *Occupational Health and Safety Regulation 2001* to carry out risk assessments in respect of identified hazards.

Part A: Identification of the task

EMPLOYEE(s) who perform and are involved in assessing the task (attach list if required):

MANAGER/SUPERVISOR:

Name of the department staff assessing the risk work in:

Work area(s) in which the task is done (if different from above):

Cost centre:

Date of assessment:

Identify and/or describe the manual handling task to be assessed:

* ensure task is entered in your Manual Handling Risk Register.

How was the task identified?

- Consultation with staff (eg discussion in staff meeting)
- Observation
- Incident report
- Other (specify)

Are there any reported injuries or illness associated with this task being assessed?

- No
- Unaware/not sure
- Yes - then give brief details:

Part B: Assessment of the risk

1. Does your task have any issues/problems related to **actions and movements** (including repetitive actions and movements)? **Y/N**

If yes, answer the questions below. If no go to question 2.

	YES	NO	N/A
1.1 Does your task cause any <input type="checkbox"/> discomfort, <input type="checkbox"/> strain or <input type="checkbox"/> pain?			
1.2 Does your task require you to use <input type="checkbox"/> sudden or <input type="checkbox"/> jerky movements?			
1.3 Does your task require you to use your limbs whilst they are in a static position (straight or bent) for long periods?			
1.4 Does your task require you to <input type="checkbox"/> bend, <input type="checkbox"/> stoop, <input type="checkbox"/> twist or <input type="checkbox"/> overreach repetitively?			
1.5 Does your task require you to use only one hand?			
1.6 Does your task require you to unevenly share the load between both hands?			
1.7 Does your task require you to <input type="checkbox"/> push or <input type="checkbox"/> pull, across the front of the body?			
1.8 Does your task require you to <input type="checkbox"/> side bend or <input type="checkbox"/> twist your back before you lift or move anything?			
1.9 Does your task require you to use two actions one of which is an unsupported and fixed action?			
1.10 Does your task require you to stand awkwardly (ie not forward facing or upright) repetitively or for long periods?			
1.11 Does your task require you to maintain the same position for long periods?			
1.12 Does your task require you to repetitively bend down below mid-thigh level with your hands?			
1.13 Does your task require you to repetitively <input type="checkbox"/> lift and/or <input type="checkbox"/> reach above shoulder height?			
1.14 Does your task require you to repetitively <input type="checkbox"/> bend and/or <input type="checkbox"/> stoop due to overreaching?			

A 'yes' answer means there is a risk - what can be done to eliminate or reduce this risk?

2. Does your task have any issues/problems related to **workplace and workstation layout? Y/N**

If yes, answer the questions below. If no, go to question **3**.

	YES	NO	N/A
2.1 Does your task allow you to use an upright and forward facing position?			
2.2 Does your task allow you visibility?			
2.3 Does your task ideally allow you to work at about waist height and within easy reach?			
2.4 Is your task layout appropriate for your physical size?			
2.5 Does your task have adequate workspace?			
2.6 Are your workspace and/or work height adjustable?			
2.7 Are appropriate mechanical lifting aids available for your task?			
2.8 Can you rotate your tasks to avoid repetitive movements?			
2.9 Is there enough clear space for your legs and feet?			

A 'no' answer means there is a risk - what can be done to eliminate or reduce this risk?

3. Does your task have any issues/problems related to **working posture and position? Y/N**

If yes, answer the questions below. If no go to question **4**.

	YES	NO	N/A
3.1 Does your task make it awkward or difficult to <input type="checkbox"/> reach, <input type="checkbox"/> grasp objects?			
3.2 Does the task require you to reach 30 cm or more from your body for more than one continuous minute?			
3.3 Does your task require you to reach repetitively 30 cm or more from your body?			
3.4 Are you required to repetitively reach out above your shoulder height for more than 30 seconds a time?			
3.5 Does your task require you to reach at your shoulder height for more than 30 seconds?			
3.6 Does your task require you to repetitively <input type="checkbox"/> bend, and/or <input type="checkbox"/> stoop forward?			
3.7 Does your task require you to repetitively twist your back?			
3.8 Does your task require you to repetitively bend sideways?			

A 'yes' answer means there is a risk - what can be done to eliminate or reduce this risk?

4. Does your task have any issues/problems related to **task duration and frequency of manual handling? Y/N**
 If yes, answer the questions below. If no go to question **5**.

	YES	NO	N/A
4.1 Does your task require you to do <input type="checkbox"/> frequent or <input type="checkbox"/> long periods of manual moving and handling?			
4.2 Is your task repetitive (<i>see the below table for what is considered repetitive</i>)?			
4.3 Does your task get <input type="checkbox"/> monotonous, <input type="checkbox"/> cause you to become bored?			
4.4 Does your task make your <input type="checkbox"/> fingers/hands, <input type="checkbox"/> hands/wrists, <input type="checkbox"/> wrists/forearms ache?			

Shift length	Handling shoulder to mid thigh	Handling above shoulder or below mid thigh
Full shift	More than 15 task repetitions per minute	More than 12 task repetitions per minute
Part of a shift	More than 18 task repetitions per minute	More than 15 task repetitions per minute

A 'yes' answer means there is a risk - what can be done to eliminate or reduce this risk?

5. Does your task have any issues/problems related to the **location of the load and the distances moved? Y/N**
 If yes, answer the questions below. If no go to question **6**.

	YES	NO	N/A
5.1 Does your task require you to move more than three steps when carrying, pushing or pulling a load?			
5.2 Does your task require you to use stairs when carrying a load?			
5.3 Does your task require you to walk up and down a ramp when carrying, pushing or pulling a load?			
5.4 Does your task require you to manoeuvre the load into position?			
5.5 Does the load have to be <input type="checkbox"/> lifted, <input type="checkbox"/> carried and/or <input type="checkbox"/> moved over a long distance?			

A 'yes' answer means there is a risk - what can be done to eliminate or reduce this risk?

6. Does your task have any issues/problems related to the **weights and forces of the object being handled? **Y/N****

If yes, answer the questions below. If no go to question **7**.

	YES	NO	N/A
6.1 Does your task require you to lift more than 4.5 kg whilst in a seated position?			
6.2 Does your task require you to lift more than 16 kg without <input type="checkbox"/> mechanical aids, <input type="checkbox"/> team lift?			
6.3 Does your task require you to <input type="checkbox"/> slide, <input type="checkbox"/> push, <input type="checkbox"/> pull and object with difficulty?			
6.4 Does your task require you to <input type="checkbox"/> push, <input type="checkbox"/> pull, <input type="checkbox"/> hold a load that causes your body to twist?			
6.5 Does your task require you to <input type="checkbox"/> slide, <input type="checkbox"/> push, <input type="checkbox"/> pull an object over, <input type="checkbox"/> rough, <input type="checkbox"/> uneven, <input type="checkbox"/> angled, <input type="checkbox"/> sloped surfaces?			
6.6 Does your task require you to <input type="checkbox"/> push, <input type="checkbox"/> pull or <input type="checkbox"/> restrain whilst using a large force?			

A 'yes' answer means there is a risk - what can be done to eliminate or reduce this risk?

7. Does your task have any issues/problems related to the characteristics of **loads and equipment?** (eg does your task require you to grip the load in a difficult and/or unsafe way?) **Y/N**

If yes, answer the questions below. If no go to question **8**.

	YES	NO	N/A
7.1 Does your task require you to have attachments as part of the load? eg medical equipment?			
7.2 Does your task require you to restrain the load? eg disturbed patient, unpredictable object?			
7.3 Does your task require you to consider special health/safety needs? eg falls prevention?			
7.4 Does your task require you to move objects that could become <input type="checkbox"/> unbalanced or <input type="checkbox"/> move suddenly?			
7.5 Is it difficult to keep a balanced posture when moving objects because of their shape?			
7.6 Are objects in your task difficult to <input type="checkbox"/> grasp, <input type="checkbox"/> hold, due to <input type="checkbox"/> shape, <input type="checkbox"/> size, <input type="checkbox"/> weight?			
7.7 Does your task require you to move objects with <input type="checkbox"/> sharp edges, <input type="checkbox"/> bits sticking out?			
7.8 Does your task require you to move objects that are <input type="checkbox"/> hot, <input type="checkbox"/> cold, <input type="checkbox"/> hazardous?			
7.9 Does your task require you to move objects that because of their size block your view?			
7.10 Does your task require you to move objects wider than 50 cm?			
7.11 Does your task require you to move objects more than 30 cm from your body?			
7.12 Does your task require you to move two objects together which measure more than 75 cm?			

A 'yes' answer means there is a risk – what can be done to eliminate or reduce this risk?

8. Does your task have any issues/problems related to the work organisation? Y/N

If yes, answer the questions below. If no go to question 9.

	YES	NO	N/A
8.1 Are your work procedures affected by <input type="checkbox"/> bottlenecks, <input type="checkbox"/> sudden changes, <input type="checkbox"/> delays?			
8.2 Does the unavailability of staff affect the task's time frames?			
8.3 Do you require assistance from others so you can manually move and handle <input type="checkbox"/> people, <input type="checkbox"/> machines, <input type="checkbox"/> objects?			
8.4 Do you require assistance from others so you can use your tools, instruments, plant and equipment?			
8.5 Is a maintenance program <input type="checkbox"/> non-existent and/or <input type="checkbox"/> carried out in an unsafe manner?			
8.6 Is the maintenance program <input type="checkbox"/> unplanned and/or <input type="checkbox"/> not documented within the organisation			
8.7 Are there problems with the method of reporting unsafe plant, equipment and environmental conditions?			
8.8 Do you lack a formal documented procedure for <input type="checkbox"/> trialing, and/or <input type="checkbox"/> purchasing plant and equipment?			

A 'yes' answer means there is a risk - what can be done to eliminate or reduce this risk?

9. Does your task have any issues/problems related to the work environment? Y/N

If yes, answer the questions below. If no go to question **10**.

	YES	NO	N/A
9.1 Is your task performed in a 'confined space' eg in a ceiling, down a tank, shaft or pit, or under a floor?			
9.2 Is the workspace inadequate for you to do the task?			
9.3 Is the lighting <input type="checkbox"/> too bright, <input type="checkbox"/> glary, <input type="checkbox"/> too little or <input type="checkbox"/> dull for safe manual handling?			
9.4 Is the work area climate <input type="checkbox"/> too hot, <input type="checkbox"/> too cold, <input type="checkbox"/> too humid or <input type="checkbox"/> too draughty/windy?			
9.5 Is the floor/working surface <input type="checkbox"/> cluttered, <input type="checkbox"/> uneven, <input type="checkbox"/> slippery, <input type="checkbox"/> damaged or <input type="checkbox"/> wrong type?			
9.6 Does your work area have different floor levels?			
9.7 Is your work place untidy?			
9.8 Is your work place affected by <input type="checkbox"/> fumes, <input type="checkbox"/> dust, <input type="checkbox"/> gases, <input type="checkbox"/> vapors?			
9.9 Is your work place <input type="checkbox"/> noisy, <input type="checkbox"/> suffer vibrations?			

A 'yes' answer means there is a risk - what can be done to eliminate or reduce this risk?

10. Does your task have any issues/problems related to **employee age , **clothing** , **special needs (temporary or permanent)** , **skills** and **experience** ? Y/N**

If yes, answer the questions below.

	YES	NO	N/A
10.1 Are staff <input type="checkbox"/> new to the task, <input type="checkbox"/> deskilled or <input type="checkbox"/> in need of refresher training?			
10.2 Are there <input type="checkbox"/> age, <input type="checkbox"/> physical, <input type="checkbox"/> intellectual or <input type="checkbox"/> disability factors that need consideration?			
10.3 Do staff have special needs to do the task, eg injury management considerations?			
10.4 Are staff under 18 years of age and asked to lift objects of 16 kg or more without help?			
10.5 Does your work clothing interfere with or make it difficult for you to move freely when doing your task?			
10.6 Does your PPE interfere with or make it difficult for you to move freely when doing your task?			
10.7 Have you been trained to <input type="checkbox"/> recognise and <input type="checkbox"/> assess a manual-handling			
10.8 Do you know how to <input type="checkbox"/> select and <input type="checkbox"/> apply manual handling techniques?			
10.9 Have you been trained in manual handling techniques?			
10.10 Have you received your induction training for safe work practices in your			
10.11 Are you familiar with heavy manual handling procedures?			
10.12 Is the task matched to your physical capability?			

A 'yes' answer means there is a risk – what can be done to eliminate or reduce this risk? (write below)

A 'no' answer means there is a risk - what can be done to eliminate or reduce this risk?

11. Does your task have any issues/problems related to **any other factors considered relevant** by the employer, the employees or their representatives on health and safety issues? **Y/N**

If yes, answer the questions below. If no go to part C – Control.

	YES	NO	N/A
Please specify any other issues			

What can be done to eliminate or reduce this risk?

Part C - Control measures (All Part C Sections are to be completed by Manager)

Manager/supervisor filling out Part C:		Cost centre:	Date (today):
1: Identify – you have identified the manual handling task, in Part A, which could or has caused injury, or illness. Note brief details here:			
2: Assess – you have assessed the manual handling task, in Part B, why it is a problem. Note the significant hazards and risks:			
<input type="checkbox"/> Actions/movements (incl repetitive actions and movements)	<input type="checkbox"/> Location of loads and distances moved		
<input type="checkbox"/> Workplace/workstation layout	<input type="checkbox"/> Weights and forces		
<input type="checkbox"/> Working posture and position	<input type="checkbox"/> Employee age/clothing/special needs/skills/experience		
<input type="checkbox"/> Work organisation	<input type="checkbox"/> Characteristics of loads and equipment		
<input type="checkbox"/> Work environment	<input type="checkbox"/> PPE		
<input type="checkbox"/> Duration and frequency of manual handling	<input type="checkbox"/> Any other factors.		

Using the following HAZARD PRIORITY MATRIX to assess the hazard/risk for its likelihood and its severity.

How severely could it hurt someone or how ill could it make someone?	Very likely (Could happen at any time)	Likely (Could happen sometime)	Unlikely (Could happen but very rarely)	Very unlikely (Could happen, but probably not)
Kill or cause permanent disability or ill health.	1 (extreme)	1 (extreme)	2 (very high)	3 (high)
Long-term illness or serious injury.	1 (extreme)	2 (very high)	3 (high)	4 (medium)
Medical attention and several days off work.	2 (very high)	3 (high)	4 (medium)	5 (low)
First aid needed.	3 (high)	4 (medium)	5 (low)	6 (very low)

3: Hazard Priority Matrix Score: 1 2 3 4 5 6

**Recommended time frames for control measures and review:

1 = 1 week 2 = 1 month 3 = 2 months 4 = 3 months 5 = 4 months 6 = 6 months

4: Control – Using the ‘Hierarchy of control’ (see next page) list strategies that eliminate, minimise, or manage the hazard/risk. If more than one selection, list them in order of priority from the most, to the least effective. Also, provide your reason for this strategy - agreed by all, affordable, practicable.

Agreed actions/control measures:			Give a brief reason for choosing this/these control strategy/strategies (eg agreed by all, affordable, practicable):										
Action/s – consider short, medium and long term solutions. (list or number in priority order from most to least effective)	Person responsible	Target implementation date											
			<p>Hierarchy of control Primary obligation is to eliminate the risk</p> <table border="1"> <tr> <td>1</td> <td>Design – can you eliminate the hazard/ risk altogether? If not can you substitute or isolate the risk from the employee?</td> </tr> <tr> <td>2</td> <td>Mechanical aids – is equipment required or a review needed?</td> </tr> <tr> <td>3</td> <td>Administrative control – can the job be done in a safer way eg job rotation, safe work procedures, procedure change?</td> </tr> <tr> <td>4</td> <td>Training – does it exist, is it up to date, is there a need for a review?</td> </tr> <tr> <td></td> <td></td> </tr> </table>	1	Design – can you eliminate the hazard/ risk altogether? If not can you substitute or isolate the risk from the employee?	2	Mechanical aids – is equipment required or a review needed?	3	Administrative control – can the job be done in a safer way eg job rotation, safe work procedures, procedure change?	4	Training – does it exist, is it up to date, is there a need for a review?		
1	Design – can you eliminate the hazard/ risk altogether? If not can you substitute or isolate the risk from the employee?												
2	Mechanical aids – is equipment required or a review needed?												
3	Administrative control – can the job be done in a safer way eg job rotation, safe work procedures, procedure change?												
4	Training – does it exist, is it up to date, is there a need for a review?												

5: Residual hazard/risk

Will the implemented control measures eliminate the hazard/risk? Yes . If No – then a residual hazard/risk still exists. Give brief details for modifications, actions, or solutions to manage the residual hazard/risk.

6: Residual risk/hazard matrix score: 1 2 3 4 5 6

Review no 1 – will happen in

1 week 1 month 2 months 3 months 4 months 6 months

7: Safe work practice

- Is one required No Yes – therefore has one been initiated? No Yes
- Does a current SWP require review No Yes – therefore has the review been initiated? No Yes

Part D – Review/monitor the task and control measures

Review No 1		Review date:	
A	Are the implemented control measures in Part C Point 4 successful?	Yes <input type="checkbox"/>	No <input type="checkbox"/> – then what action is needed?
B	Have the implemented changes reduced risk of injury?	Yes <input type="checkbox"/>	No <input type="checkbox"/> – then what further controls are needed?
C	Have new risks been introduced and/or reported?	No <input type="checkbox"/>	Yes <input type="checkbox"/> – then how will these new risks be controlled?
D	Are new solutions and controls available?	No <input type="checkbox"/>	Yes <input type="checkbox"/> – then how will these be implemented (incl review of SWP)?
E	Is a new risk assessment needed since the changes in Part C have been implemented?	No <input type="checkbox"/>	Yes <input type="checkbox"/> – then identify the manager/supervisor responsible for a new assessment:: Name: Review date:
F	What is the residual hazard priority score? 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> Review no 2 – will happen in 1 week <input type="checkbox"/> , 1 month <input type="checkbox"/> , 2 months <input type="checkbox"/> , 3 months <input type="checkbox"/> , 4 months <input type="checkbox"/> , 6 months <input type="checkbox"/>		
Details of manager/supervisor completing Review No 1.			
G	Print name	Signature:	Date reviewed:

Review No 2			Review date:
A	Are the implemented control measures in review no 1 above, successful	Yes <input type="checkbox"/>	No <input type="checkbox"/> – then what action is needed?
B	Have the implemented changes reduced risk of injury?	Yes <input type="checkbox"/>	No <input type="checkbox"/> – then what further controls are needed?
C	Have new risks been introduced and/or reported?	No <input type="checkbox"/>	Yes <input type="checkbox"/> – then how will these new risks be controlled?
D	Are new solutions and controls available?	No <input type="checkbox"/>	Yes <input type="checkbox"/> – then how will these be implemented (incl review of SWP)?
E	Is a new risk assessment needed since Review no 1, above?	No <input type="checkbox"/>	Yes <input type="checkbox"/> – then identify the manager/supervisor responsible for a new assessment: Name: Review date:
F	What is the residual hazard priority score? 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>		
Details of manager/supervisor completing Review no 1.			
G	Name	Signature:	Date reviewed:
<p>Central register procedure</p> <ul style="list-style-type: none"> • Keep original risk assessment in the work area (ensure it is accessible by staff), • ENSURE ALL STAFF PERFORMING THE TASK SIGN-OFF ON ANY CONTROL MEASURES AND RELATED SWPs/PROCEDURES. • Send a copy of the assessment and any reviews as they occur to: 			

A risk hazard priority rating between 1 – 4 requires ongoing review - Please print and attach copies of Part D of this checklist as required. Once the risk hazard priority rating is at level 5 or 6 (low or very low) and all required control measures are in place, the task may be monitored for any changes to the risk (ie staff changes, injury etc).

Acknowledgement: Provided with the permission of Fairfield Health Service

3.2 The manual handling hazard register

Keeping a manual handling hazard register may assist in meeting your OHS requirements. However, you are not legally required to keep a manual handling hazard register. Employers are legally required to keep a register of injuries (s63, *Workplace Injury Management and Workers Compensation Act 1998*). There are other related record-keeping requirements in the OHS and workers compensation legislation.

More information about these requirements is contained in the relevant legislation, or from WorkCover on **13 10 50**.

The following information may assist if you decide to keep a manual handling hazard register as a way of making sure you meet your legislative requirements.

The purpose of a manual handling hazard register is to:

- keep a record of all measures taken to reduce the risk of manual handling injury
- ensure all staff can refer to a record of control measures
- ensure actions are carried out as planned in priority order
- assist with the process of identifying and resolving manual handling problems.

The register is also a useful method of sharing information and promoting manual handling solutions to other units within the organisation to prevent unnecessary duplication of effort.

The register should be compiled from risk and incident reports and the outcome of staff consultation, and kept up-to-date by the unit manager. Use it at team meetings to plan and review manual handling strategies.

A sample Manual Handling Register is provided for you to copy and use.

Explanatory notes for sample Manual Handling Hazard Register

Date:	Insert the date on which the hazard was identified.
Identified by:	Insert the name of the person who identified the hazard. Inserting a name is optional since some employees may be uncomfortable about having their name included on the register. You can also add how the hazard was identified, eg an incident occurred, it was observed by staff, it was identified during routine inspection.
Description:	Describe the nature of the hazard, eg describe the activity, the load, equipment, or aspect of workplace layout.
Initial risk ranking:	Prioritise the hazards in consultation with employees. This means you know where to start if there are a lot of hazards reported. Develop a set of standard criteria to assist prioritisation.
Target date:	Insert the date by which the control measure should be in place.
Person/s responsible:	Insert the name of the person responsible for implementing the control measure.
Action plan:	Insert the nature of the control measure to be taken, eg review program, design a leg-handling device, purchase equipment.

- Completed:** To verify that the proposed action was taken, insert the date on which action was completed. If action could not be completed as planned, include the reason. You should re-list the risk with a revised action plan.
- Revised risk ranking:** Once control measures are in place revise the initial risk ranking in consultation with employees.
- Monitor/review date (if required):** In consultation with employees decide on a date to review the task and its control strategies to ensure their continued effectiveness.

Sample form: Manual Handling Hazard Register

This form is provided as an example only. It may help as a guide in developing manual handling programs. When developing or revising your manual handling program, you should ensure you are meeting your obligations under the legislation. This is not an official form. You are not legally required to complete it or to use it as part of your manual handling program.

Date	Identified by	Description	Initial risk ranking	Action plan	Person/s responsible	Target date	Completed	Revised risk ranking	Monitor/ review date (if required)

3.3 Policies and procedures as control measures

Written procedures to reduce manual handling risk can be either specific to a high-risk activity or incorporated into existing policies or procedures. Procedures for manual handling assessment of patients and the environment are also powerful methods of risk control. However, any policy and procedure is only successful in controlling manual handling risk when it is followed.

Incorporating manual handling into existing policies and procedures

Incorporating manual handling risk control strategies into existing policies and procedures may be an effective method of risk control. When reviewing existing policies and procedures, examine the manual handling activities and use the hierarchy of controls to improve the procedure. Two examples for a home nursing service are outlined below.

1 Referral policy and acceptance criteria

The discharge of patients who require home nursing services without first organising equipment or home modifications was identified as a manual handling risk. The solution was to modify the acceptance criteria for patients discharged from hospital to include information about the home environment and equipment needs. Assessment of the patient's home and implementation of controls, such as modifications, should preferably occur before the service commences.

2 Initial assessment

Another identified manual handling risk was the lack of available information about the need for modifications to the patient's home when the patient was referred to the home nursing service from a source other than hospital discharge. The existing assessment procedure only addressed treatment needs and did not consider the manual handling that the nurse would be required to do.

The solution was to change the assessment procedure to include consideration of the manual handling to be undertaken by the treating nurse eg providing a hoist or a commode chair to facilitate handling a dependent patient.

Specific manual handling policies and procedures

One way to ensure high-risk activities are undertaken with a minimum of risk to patient and nurse is to have clear written procedures for these activities. Two examples are:

1 The patient who has fallen

A specific procedure that is particularly useful for nursing homes and home nursing services is the plan of action following a patient fall. The procedure might vary according to the function of the particular nursing unit, the patient assessment and the site of the incident, eg a ward compared to a patient's home.

2 Staffing levels needed for a specific activity

Appropriate staffing levels can assist with the prevention of patient-related manual handling incidents. Appropriate staffing levels will also minimise the risk of aggression towards nursing staff. Written procedures specifying that an activity be carried out by a minimum number of staff are common in areas such as aged care, community nursing, and mental health services. In public hospitals, Reasonable Workload Committees can help determine safe staffing levels and skill mix.

Assessment procedures

Assessment procedures are an integral component of nursing practice and are used to develop plans related to risk control in patient care, such as medical risks, medication, pressure areas, and mobility. Nurses need

to take these assessment procedures one step further and incorporate manual handling risk control measures for the benefit of the nurse and patient. Two examples are:

1 The home assessment

Assessment of the home environment should produce an action plan for modifications to the home and equipment requirements. This will reduce manual handling risks to the nurse, patient, and carer. See 'Sample: Home assessment'.

2 Patient handling plans

For some time nursing homes have specifically assessed patients and developed patient-handling plans routinely for every new admission. Rehabilitation teams constantly assess and reassess the patient's mobility, aiming to encourage independence. Developing patient independence is one way of eliminating manual handling risks. See 'Case Study: Mobility program, Mayflower Nursing Home'.

Sample procedure for community nurses for managing a patient who has fallen

This procedure is to be followed for patients who fall to the floor or are found sitting on the floor.

- Under no circumstances attempt to manually lift the patient from the floor.
- Lay the patient down and make them comfortable.
- Assess the patient for possible complications, eg stroke, heart attack, bleeding wound, fracture/dislocation.
- If appropriate, attempt to help the patient to stand by rolling the patient onto his or her side, then onto all fours and then into a kneeling position. Using a chair as a prop, help the patient up and onto the chair.
- Should the patient be unable to do this with light assistance, then another nurse should be called and lifting equipment should be used. Generally, ambulance officers should not be called to assist with manual handling, except as a last resort - this simply transfers the risk to others.
- Call for an ambulance if serious injury is suspected.

Sample procedure for nursing home staff for managing a patient who has fallen

This procedure is to be followed for patients who fall on the floor or are found sitting or lying on the floor.

- Lay the patient on the floor.
- Call for assistance.
- Place a pillow or towel under the patient's head.
- Call for a registered nurse to assess the patient.
- Use an electric lifter if the patient cannot get up alone with only light assistance.
- Ring for an ambulance if serious injury is suspected.

Nurses should never attempt to lift a fallen patient. The patient may have suffered a stroke, a heart attack, an epileptic fit, a bleeding wound, or a fracture. Further injury of the patient can occur if manual lifting is attempted.

Sample form: Home assessment

Patient name		Patient No.	
Patient address			

Bed

- Double (or larger)
 Low
 Access one side only

Access and hallways

- Narrow eg hallway less than 100 cm may limit equipment use or ability to assist
 Obstacles eg electrical cords, rugs, ridges, steps, uneven floors
 Surface eg carpeted floors that make wheeling difficult
 Steps impeding access, mobility, use of equipment

Bathroom

- Space/layout restrictions
 Hob
 Floor surface condition
 Drainage

Equipment

- Is the design and operation of all equipment adequate?
 Is equipment compatible eg does it fit through doorways?
 Is equipment well maintained eg castors, foot plates, brakes?
 Is the chair suitable?
 Is the bed suitable?
 Does the patient own the equipment?

Action required

Assessed by			
Position			
Signature		Date	

3.4 Designing the work environment

Location of services and facilities

The work environment is important for the effective functioning of the ward. The layout of the ward, the inter-relationships and locations of the various facilities and rooms are important factors to be considered, not only for delivery of patient care but also for the health and safety of the carers and the patients.

Nursing workflow patterns should be considered when facilities are being planned. The principle of optimising distances should be applied to meeting nurses' needs when considering the location of services and facilities. Equipment which is used often or which may be needed urgently should be located close to the point of use. For example, nearby storage for handling equipment such as lifters, slings, trolleys and wheelchairs should be provided and included in the ward layout planning stage.

Flooring

Careful consideration should be given to a variety of factors when selecting the type of flooring. They include:

- the range of users
- the purposes for which the area is used
- forces needed to push trolleys, hoists and other equipment across the floor
- equipment used on the floor
- wet, dry and slippery surfaces
- cleanliness and hygiene requirements
- sound proofing
- flammability requirements.

Taking the above factors into consideration, decisions can be made about flooring for slopes and single level surfaces, including whether carpet, vinyl or other floor covering should be used.

The choice of flooring can greatly affect the incidence of manual handling injuries. For example, carpet has often been installed in hospitals to make the wards quieter only to discover that injury rates to domestic staff escalate and many service trolleys such as meal and laundry trolleys need two people to push and manoeuvre them.

Room types

Nursing staff and other staff who use these areas should be consulted at the design stage on specifications for wards, treatment rooms, bathrooms/ensuites and related work areas. When considering the size, layout and location of work areas, all of the activities that may be performed in the room (even occasionally) need to be considered. Types of rooms include:

- treatment rooms
- operating theatres
- delivery suites
- bedrooms
- bathrooms/ensuites/toilets
- corridors/aisles/ramps
- storage rooms and nooks
- lounge rooms
- dining rooms
- offices
- lifts
- foyers/entrance halls/waiting rooms
- nurses' stations.

Consider interactions between people and equipment. Factors to consider when designing and siting rooms are:

- turning circles for mobile equipment including the largest bed
- aisle widths
- multiple users, pedestrians, nurses, patients, equipment, wheelchairs
- heights of ceilings, doorways
- height of curtain tracks
- width of doorways
- the direction in which doors swing, options for sliding doors
- corridor intersections and visibility
- floor and ramp slopes, turning angles
- room type and location interrelationships, eg optimal distances for manual handling
- use of door holders and door closers.

Fixtures, fittings and furnishings

Consultation with nurses, other relevant employee groups (such as cleaning and maintenance staff), other similar facilities, and suppliers should also occur when selecting furniture and fittings during the facility planning stage. As with other equipment, criteria for selection should be developed. Factors to be considered include:

- quality
- whether the furniture and fittings are purpose designed. For example, can television support arms be easily folded back out of the way when patient treatment is in progress
- relevance to health and safety, eg design and placement of grab/support rails in aged care and rehabilitation facilities can reduce manual handling risks
- durability
- ease of maintenance and cleaning
- ease of use (including use by patients if applicable)
- cost over the life of the item
- placement, eg is it accessible, does it obstruct nursing activities
- in the case of furniture, whether it is easily moved for cleaning or whether it obstructs patient handling or treatment.

Further information is contained in *Designing Workplaces for Safer Handling of Patients/Residents*, WorkSafe Victoria, 2002 and *Guidebook for Architects and Planners*, Arrjo, 1996.

3.5 Patient handling

Manual handling of patients is the main end cause of musculoskeletal injury in nurses, although there are cumulative factors that also contribute.

Many facilities have implemented minimal lifting or no lifting policies. This type of policy means that manual handling is eliminated wherever possible. Where this is not possible equipment is used to reduce the forces required during handling.

Features of this type of policy are:

- patients are encouraged to move themselves and provided with equipment to move themselves, eg. electric backrests, monkey rings, rope ladders and leg lifters
- hoists are used for all total body lifting
- where manual handling cannot be avoided, aids such as slip sheets, walk belts, slideboards and monkey rings are used to reduce the risk of injury
- strict procedures for patient handling and other handling activities are implemented and actively supported by management
- staffing levels are sufficient for handling activities including equipment use
- sufficient suitable equipment is provided and is well maintained
- staff are trained in manual handling and the use of equipment.

The basic steps of planning safe or minimal patient handling

1. Assess

A patient handling risk assessment is a functional assessment of the patient's ability to move themselves. It differs from the task risk assessment in the *National Code of Practice for Manual Handling* because it is really an assessment of the load. Unlike inanimate objects, patients are not rigid or stable nor do they have the same shape every time they are handled. The patient attributes that have an influence on the assessment include physical attributes and function, mental status and cognition, medical condition and communication issues. A functional assessment is an integrated test of all these attributes.

An assessment of each handling episode needs to be done. For example:

- moving in bed
- moving in and out of bed or onto trolleys
- getting into and out of chairs
- moving to and from toilets and commode chairs
- walking including walking on stairs, slopes and uneven surfaces (as required)
- getting in and out of vehicle.

A patient handling assessment should be carried out on admission and at regular intervals determined by the condition of the patient. It should be undertaken in consultation with or by the people who are doing the work. Therefore an assessment for nursing care should be done by nurses. Experts including occupational therapists or physiotherapists may need to be called in for complicated cases. The frequency of assessment is determined by how quickly the patient's capacity changes.

2. The manual handling plan

During the patient assessment decisions are made as to what techniques are to be used, how many people and what equipment is to be used. These are the risk control methods. The results are then documented in the nursing notes as a patient handling plan. This should also be put into a format to be communicated to all handlers such as a card placed near the patient's bed.

When planning how to move a patient, one of the basic principles of a minimal lifting program is to encourage patient independence and get the patient to move themselves. This requires a knowledge of normal human movement and body mechanics as sick people who may be in pain often need to be talked and guided through methods of moving.

If the patient is not independent then equipment needs to be matched to the patient and the environment. When considering options it is important to note that clause 80 of the OHS Regulation states that 'an employer must, as far as reasonably practicable, achieve risk control by means other than team lifting'. This means that equipment must be used as a first option.

Different types of units approach the patient assessment in different ways. In the acute setting the patient can change rapidly. For example, a surgical patient may require daily assessment whereas a rehabilitation patient or aged care patient may change quite slowly. In the home setting the patient assessment needs to include a home and task assessment.

3. Documenting the assessment and the plan

Manual handling plans should be specific to the unit, detailing available equipment options.

Transfer task

- bed mobility
- in and out of bed
- sit to stand
- chair to chair
- walking
- showering/toileting
- in and out of vehicles.

Selected lifting or transfer techniques

- supervision only
- assisted manual
- manual
- mechanical
- other equipment.

Equipment

- ceiling hoist and attachments
- full body mobile hoist and attachments
- stand up hoist and attachments
- handling or transfer equipment
- for use by handlers eg slide sheet
- for use by patient eg monkey bar, rope ladder.

Number of handlers required

Furniture

- water chair
- armchair
- wheelchair
- commode chair
- shower trolley
- bed.

Action

- date of entry in care plan
- reassessment date.

4. Communicate

The results of the assessment or manual handling plan should be displayed where it can easily be referred to so that new, inexperienced and temporary staff, in particular, have ease of access and do not need to interrupt busy staff to ask for advice. Even non nursing staff benefit from understanding the patient's physical capacity.

Consider using pictographic charts indicating for example, equipment, techniques and minimum staff numbers to be used for positioning the patient in the bed and for moving the patient in and out of bed. The chart can be displayed above the bed, or if privacy is an issue, it can be located more discreetly, eg on the inside of the wardrobe door.

Sample checklist – Patient assessment

This form is provided as an example only. It may help as a guide in developing manual handling programs for other workplaces. When developing or revising your own manual handling program you will need to take into account the particular circumstances of your own workplace to make sure you meet your obligations under the legislation.

This is not an official form. You are not legally required to complete it or to use it as part of your manual handling program.

Physical function

- Control of arms and legs
- Weight
- Height
- Subluxed shoulder
- Balance
- Tone
- Sensation
- Vision
- Body awareness
- Hearing
- Range of movement

Mental status and cognition

- Aggressive
- Unpredictable
- Resisting
- Confused
- Agitated
- Judgement
- Memory
- Concentration

Medical condition

- Pain
- Fractures
- Medication
- Recent change
- Fatigue
- Delicate skin
- Attachments drips catheters etc

Communication

- Ability to speak
- Language barriers
- Body language
- Confidence

(Adapted from: Health Industry Back Pain Prevention Package, Queensland Nurses' Union, Brisbane, 1990.)

Sample checklist – Other risk factors about the patient you may need to consider

This form is provided as an example only. It may help as a guide in developing manual handling programs for other workplaces. When developing or revising your own manual handling program you will need to take into account the particular circumstances of your own workplace to make sure you meet your obligations under the legislation.

This is not an official form. You are not legally required to complete it or to use it as part of your manual handling program.

Date of assessment: Person 1..... Person 2.....

Date of reassessment: Person 1..... Person 2.....

1. Bed mobility

Can the patient move in bed without any assistance? YES NO

If NO, does the patient require:

- monkey ring
- rope ladder
- bed roller sheet
- slide sheet
- coaching
- limb placement

OR

Please indicate the type of mechanical assistance required

- standard hoist and sling
- specific hoist/sling . .

2. Assessment of getting out of bed

Can the patient get in and out of bed without any assistance? YES NO

If NO, does the patient require:

- coaching
- limb placement
- monkey ring
- rope ladder
- leg lifter
- walk belt
- PAT slide

OR does patient require:

- harness from stand-up hoist
- specific hoist/sling . .

3. Sitting to standing assessment

Can the patient get in and out of a chair without any assistance? YES NO

If NO, does the patient require:

- coaching
- limb placement
- walk belt

OR does the patient require:

Stand up hoist/specific sling

4. Walking assessment

Can the patient walk without any assistance? YES NO

If NO, does the patient require:

- coaching
- walking aid, eg stick, Zimmer frame
- walk belt

If the patient requires more assistance, then it may not be considered safe to 'walk' this patient at present in routine circumstances.

This assessment can be expanded to cover other activities such as toileting and showering, getting in an out of a vehicle etc.

3.6 Selection, design or redesign of equipment

The following information may be of assistance when deciding what equipment is appropriate for your workplace.

Equipment must be functional for the purpose for which it is to be used. Poor choice of equipment can lead to manual handling risks. Making the wrong choice is expensive and, once the money is spent, it can be difficult to justify a replacement. A good choice may reduce poor postures, reduce pushing/pulling forces, reduce the risk of injuries, enhance productivity and encourage use.

The purchasing process

When planning to purchase equipment:

- check to see if there is an applicable Australian Standard
- check to see if equipment has already been submitted and passed certain criteria eg government contracts
- consult with users
- decide which features are mandatory and which are desirable
- consult with suppliers
- consider the design of the building and the space in which the equipment is to be used
- consider compatibility with the work environment, other equipment and furnishings and patient needs
- conduct user trials in the actual work environment
- consider if improvement modifications can be made
- consider the location of the storage area
- consider what training may be required.

The process described in 'Case Study: Bed selection, Mayflower Nursing Home' may assist in determining appropriate procedures for your workplace. The process can be simplified or expanded depending on your needs.

Consult the users

Consultation when making decisions affecting the health, safety and welfare of employees at work, is a key requirement of the OHS Act (Sections 13, 14 and 15). Consult all of the users, including nurses, cleaners, ward assistants and maintenance personnel. The following questions are examples of the kinds of things that may be relevant to decisions about the type of equipment to be purchased:

- what do you do with this equipment and how often?
- what features do you need in a new one?
- what has been your past positive experiences, eg design features you liked?
- what has been your past negative experiences, eg design features you didn't like?
- have you experienced any injuries or difficulties?
- where is it going to be used?
- are there any risks associated with the use of this equipment?

Important: Consulting other similar organisations about their experiences can save a great deal of time and effort.

Trialing equipment

To assist with short listing of equipment to trial, develop criteria for essential and desirable features prior to the trial. Sometimes a poor choice is made because non-essential features have so impressed users that other features are ignored.

When developing criteria, consider the interaction of the equipment with other equipment, furnishings and building design. This will help you select which equipment options to trial. For example there is no point trialing a bed if your hoists do not fit under the frame, or if it does not fit in the lift.

Obtain the item on trial from the manufacturer and use it for at least a few days under actual working conditions. Examine it under the worst possible circumstances. Trial the equipment for all possible uses. Try out all controls and adjustments in actual working conditions. A group of at least six people should trial the equipment. Include all types of staff who will be using or maintaining the equipment, such as nurses, cleaners and maintenance staff.

Choice

Ask suppliers for the names and contact details of other customers who have purchased the equipment. Contact these users about the functionality of the equipment and reliability of the supplier. Ask whether they received good after-sales customer service.

Be particular about details such as types of wheels and castors when buying mobile equipment (refer to Section 3.7 Selection of Wheels and Castors), and design of bed rails. Beware the cheapest option. It may not be cheap in the medium to longer term.

Occupational health and safety is a powerful argument, which can be used to influence purchasing officers and senior managers. Government contract items still need to have a risk assessment performed prior to purchase because a risk assessment takes into account the particular working conditions that it will be used in. Take the time to provide written justification for your purchasing decision since a poor or hasty choice can be costly in terms of occupational health and safety and productivity.

If you do not like a certain product feature, discuss it with the manufacturer. Often they will make or modify a product to meet your specifications. Provide feedback to the manufacturer. Customer-focused, quality companies welcome such comments from customers. The contact details should be on the equipment or with the purchasing officer.

Maintenance

When purchasing equipment, assess the maintenance requirements and costs, including whether the manufacturer needs to be called every time something fails, and the availability of spare parts. The cheaper product may be more expensive or difficult to maintain. Consider whether the supplier offers maintenance contracts, or leasing arrangements that include maintenance and replacement.

In-house maintenance programs should be preventative. A busy nurse does not have time to write numerous maintenance requests. A maintenance schedule should include all movable parts such as castors, wheels, brakes, controls (eg winders) and bed back rests.

Infection control and ease of cleaning of the equipment are also very important considerations.

Risk assessment

Prior to introducing a new piece of equipment into the workplace an additional type of risk assessment needs to be done. This is an assessment of the interaction of the equipment with your workplace and your systems of work. This is done to ensure that this interaction does not create a hazard. This is best done during the trial period and prior to purchasing.

Design and redesign

Under section 11 of the OHS Act, designers, manufacturers and suppliers of any plant or substance for use by people at work must ensure that the plant or substance is safe and without risks to health when properly used. They must also provide, or arrange for the provision of, adequate information about the plant or substance to ensure its safe use. Nurses can work with designers to develop or modify furniture or equipment.

If you are looking to design an item of equipment, consult with all relevant staff. Some staff bring invaluable experience from previous jobs. As with new equipment, develop criteria for essential and desirable features.

Don't be deterred if your first prototype fails to satisfy users. Ask the users for feedback and change the design accordingly.

Patient handling using hoists

Hoists are an essential feature in any workplace where patients require assistance with the day-to-day activities of bathing, moving from bed to chair, dressing etc. The use of the most appropriate hoist can significantly reduce manual handling risks.

There are three broad categories of hoists – general purpose, stand-up and special purpose hoists. When selecting a hoist, consideration can be given to the following factors, and other factors relevant to your workplace:

- what you want to do with the hoist – match the hoist to the patient's needs and physical capacity eg patients who cannot weight bear cannot use a stand-up hoist. Each facility should have at least one hoist that goes to the floor in order to assist patients who have fallen and can't get up
- type of attachments needed/available, eg types and sizes of slings, scales
- the capacity of the hoist relative to the patient's weight and height
- the usability of the equipment including compatibility with other equipment such as beds and the space in which the hoist will be used
- cleaning and maintenance
- safety considerations.

A comprehensive *Checklist for Evaluating Patient Handling Hoists Prior to Purchase* is available in Section 5.

3.7 Selection of wheels and castors

The selection of wheels and castors for equipment such as patient-lifting hoists, wheelchairs, shower chairs, beds, theatre equipment, medicine and other trolleys is an important factor in reducing the loads that contribute to manual handling injuries.

Wheel diameter

The rule of thumb is the larger the wheel diameter, the greater the load it can bear and the easier it is to manoeuvre, push, pull and steer. Larger wheels are recommended for any situation where a trolley needs to be wheeled quickly or over uneven floors, for example, at lift entrances and joins in floor surfaces.

The diameter of wheels may be limited by the need for clearance (eg under beds), and the stability of the trolley (ie larger wheels will increase the overall height).

Tyre material and tread patterns

Commonly used materials for tyres are outlined below:

1. Polyurethane

Which is quiet, does not mark floors, does not pick up dirt and is not affected by oils, detergents, water and most industrial chemicals. It has a much higher load-carrying capacity than rubber and has a higher resistance to 'chunking' abrasion and picking up gravel and metal chips. Polyurethane needs less force to start the trolley moving, does not develop flat spots after standing and absorbs more shock than nylon or rubber tyres, thus protecting the castors and trolley from wear. It is particularly suited for power towing, high impact situations (for example, over rough surfaces) and for use on carpets.

2. Nylon

Is the lowest cost wheel material. It runs easily on smooth hard surfaces but tends to be noisy. Nylon tends to pick up dirt and gravel.

3. Rubber

Is quiet and is the best choice for rough surfaces. Black rubber tyres tend to leave marks. Non-marking grey rubber is available, but is more expensive.

Bearings

Three types of bearings are commonly available and are listed below:

1. Roller bearings

Which are easier to push than plain bearings. These are recommended for rugged use.

2. Ball bearings

Which are the easiest to push but are not recommended for wet conditions.

3. Plain bearings

Which are recommended for wet conditions or low speed use. They are the cheapest, but are 40 per cent more difficult to move than roller or ball bearings.

Thread guards should be used to stop bearings from becoming clogged when used in environments where there are fabrics and lint such as in laundries.

Weight capacity

All wheels and castors have a recommended weight capacity which should not be exceeded. If the load exceeds the weight capacity it is possible to provide double wheels or to replace wheels with ones of higher rating.

Locking and braking mechanisms

Options for locking and braking are listed below.

1. Swivel lock and brakes

Are recommended when a high level of stability is required for a braked trolley. They are recommended for hospital trolleys and beds where clinical staff want to work on a patient without the trolley or bed moving.

2. Directional brakes

Are recommended for use on the front of trolleys that have to be wheeled over long distances or on sloping or uneven surfaces. They make it easier to push and steer without strain.

3. Wheel brakes

Are cheaper brakes that are adequate only if the trolley is to be parked with no work performed on it. The wheel brake will ensure the trolley does not roll away. However, if leaned on or pushed against, a wheel-braked trolley may swivel around the braked wheel.

Wheel and castor arrangements

Swivelling castors and wheels allow trolleys and other equipment to be steered and manoeuvred in different directions. However, it is hard to steer over long distances especially if the trolley is long.

1. Four swivelling wheels

This is the most manoeuvrable arrangement and can be moved in any direction. They are suitable for short distances in congested or confined spaces on level floors but require more effort to steer over long distances and on sloped surfaces as they tend to drift sideways. Some swivelling wheels can be locked in one direction for straight pushing (see 2 below). This is advantageous for equipment that is pushed straight for distances.

2. Two swivel and two fixed wheels

This arrangement is most suited to long distance pushing and sloped and uneven surfaces. The swivel wheels should be at the handle end because this gives more control.

3. Four swivel and two fixed centre wheels

This arrangement is best for long trolleys. The trolley pivots on its own length and is easy to steer around corners and passageways, but is not easily manoeuvred into a corner or parked along a wall.

Maintenance

When wheels and castors are purchased, the supplier should provide maintenance details. The maintenance program should be preventative rather than reactive. Maintenance frequency will depend on the level of use of the equipment and the conditions under which it is used.

Wheels and castors should:

- be regularly checked for wear and tear and accumulation of dirt, lint etc
- be regularly checked to ensure castor mountings are vertical and not bent
- have the swivel mechanism and the bearings greased as required to ensure easy steering, low noise and to prevent rust.

3.8 Bariatric/obese patients

NSW Health is developing a policy on the management of bariatric patients from a staff safety viewpoint. Go to www.health.nsw.gov.au for more information.

Increasingly, hospitals, nursing homes and community health services admit bariatric or obese patients. For example, the following records of patients over 100 kg admitted to Manning Base Hospital indicate the increase in frequency of this occurrence.

Year	Number of patients
2000	20
2001	37
2002	49
2003	101
2004	194

Because it can be difficult to predict when an obese patient will be admitted, a plan detailing protocols for management of obese patients and access to equipment should be in place and readily accessible. It will greatly reduce risks to staff, and will ensure these patients are safely and comfortably accommodated.

Obese patients can pose the following problems:

- manual handling injuries
- equipment failure/breakages
- patient unable to fit equipment (into chairs with arms)
- positioning (even for breathing)
- productivity issues, eg staff members needing to be withdrawn from other duties to move the patient
- difficulty confirming the weight of obese patients, because normal patient scales do not have a high “ enough range
- the patient may also be injured and suffer discomfort eg pinching, skin tears, bruising.

It is most important to identify the patient as obese prior to admission if possible eg elective surgery or liaison with the ambulance service. Admission personnel should be alerted to estimate the actual or approximate weight of the patient and inform the NUM so that appropriate bariatric equipment can be obtained. Special heavy-duty beds, hoists, chairs, wheelchairs and commode chairs may need to be obtained as the weight capacity of many of these standard items is below 120 kgs.

Some Area Health Services have solved the problem by creating an equipment pool for obese patients. When an obese patient is admitted equipment is brought to the hospital where it is needed. This is not always practical due to the increase in admissions of obese patients and the distances between facilities in some Area Health Services.

Alternatively, these items may be rented from equipment supply companies, although with the increasing problem of obesity it may be more cost effective to buy this equipment as most of it can be used with patients of lesser weights. Also, rental of this type of equipment in country NSW can be extremely difficult.

When renting bariatric equipment it must be assessed to ensure it meets the requirements of staff and the facility as well as the needs of the patients. This is similar to the suggested issues to be addressed when you are purchasing new equipment. For example, will larger beds fit through doors, is the equipment in good working order, have staff been trained to operate it, can it be obtained at short notice etc.

Some considerations

Big beds can be specially designed and constructed to meet patient requirements. Big beds can include features such as a split base (lengthwise split) with adjustable back supports to maintain patients on their sides. Fully adjustable electric beds are strongly recommended to avoid the difficulties associated with manually operated controls when there is a heavy patient in the bed.

Items such as big commode/shower chairs, wheel chairs and hoists are readily available. They may need to be pushed by two people unless larger wheels are specified when ordering them.

Nursing homes should not accept obese patients unless they have the equipment to safely accommodate them.

It is not acceptable to use team lifting when the hoist will not lift the patient, except in emergencies.

Suppliers

There are a few suppliers of equipment for obese patients while others are prepared to make suitable equipment to order. Some suppliers may be willing to hire equipment. Keep an up-to-date register of suppliers' details including brochures, phone numbers and a contact person.

More information on obese patients is available in the WorkCover NSW publication *Implementing a Safer Patient Handling Program*.

3.9 Training programs

Employers are required under section 8 of the OHS Act to provide all information, instruction, training and supervision necessary to ensure their employees' health and safety at work. Further details of training requirements are contained in the OHS Regulation (clause 13). More information about your OHS duties is available from WorkCover on **13 10 50**.

The following information may assist in developing a training program that meets your legislative requirements. You are not required to implement all the suggestions in the following information in order to meet your legal requirements.

Manual handling is an important element of patient and staff safety. At the ward or unit level training will assist employees to understand the complex nature of manual handling and the risk factors involved in the manual handling they perform in their specific location. It will also assist staff to accept new ways of handling.

Manual handling training of nurses at the ward or unit level needs to be comprehensive and targeted to the job they perform. Nurse managers training requirements are different and more comprehensive than nurses involved in patient care. Nurses carrying out patient assessment also need more comprehensive training.

Manual handling skills are not developed from reading 'how to' materials or watching videos. It is necessary to practice the skills under supervision in the same way that a person learns to drive a car. Use of newly acquired skills also needs to be supported by experienced resource people.

Types of training

There are 3 main areas that require training to enhance manual handling competence in the ward or unit. These topics need both classroom and on the job components.

- risk management training
- patient assessment training
- patient handling skills and equipment skills.

When to train

Training should be provided in a timely and regular manner especially when it involves skills training in techniques and equipment. It should be delivered:

- as part of induction preferably before the employee commences duties or within the first two weeks of employment
- as part of an ongoing manual handling training and refresher program
- at the time of procedural or equipment changes and
- where manual handling performance evaluation indicates a need for further training.

Risk management training for managers, supervisors, and members of OHS committees

The following topics should be included in detail for training those individuals involved in the implementation of manual handling legislation and the development and implementation of policy in health and aged care facilities and community care.

1. Procedures for the identification of jobs, tasks, systems and environments likely to be a risk and how to prioritise these for assessment.
2. How to prepare for, undertake and record risk assessments relating to manual handling.
3. How to develop control options in consultation with employees, implement and evaluate control options for risks relating to manual handling.
4. How to support workplace designers and purchasing staff to consider manual handling during the design and purchasing process.
5. Communication methods, including effective consultation, provision of information and training.
6. The organisation's systems for identification, assessment and control and monitor/review of manual handling risks; procedures for record keeping.
7. Identification of training needs of employees under their control.
8. Performance indicators.

Patient assessment training for nurses, physiotherapists and occupational therapists

Patients require a specific type of risk assessment. Training of staff who will be involved in patient assessment should include:

- how to assess the level of risk associated with individual patient needs
- when to assess the level of risk
- incorporating patient specific aspects in the process such as physical attributes, medical condition, level of dependence, mental or emotional state and level of cooperation
- deciding which methods and which equipment to use with each required transfer and including the involvement of the patient where possible
- the various handling, repositioning, rolling and transferring methods that are available
- skills training in the use of available patient handling aids and
- deciding when reassessment is required.

Training for all employees

All employees involved in patient care require training. Volunteers and relatives who assist with manual handling should also be trained.

The training should be ward/unit specific and should aim to ensure that the employee:

- understands the manual handling risks associated with the handling of people
- can follow the care plan

- can demonstrate how to use manual handling aids correctly
- knows how to report any problems associated with manual handling and
- knows what to do when a patient falls and what to do in any reasonably foreseeable emergency situation.

Specific techniques should include:

- Principles of normal human movement in order to encourage patient independence
- Use of equipment: Include items likely to be used on the job for example, adjusting the beds and wheelchairs, using slide sheets, hoists, and pushing trolleys and wheeled equipment etc. It should include practice of techniques preferably in the actual work situation. When teaching each technique incorporate some biomechanics, best use of body weight, holds and postures specific to the technique.

Program implementation

In large organisations it is appropriate to train a number of trainers and assessors and manual handling resource people.

New and inexperienced employees may need additional supervision until full competence is achieved. Consider implementing a system for new or inexperienced employees, where an expert handler is assigned to them until competence is achieved.

It is best to have several modules of training such as induction, basic modules, refresher training and training when introducing a new piece of equipment.

Assessment

An assessment of manual handling skills should be carried out in the following situations:

- after training and induction
- on the job
- after a long absence
- after an incident
- before/as new equipment or tasks are implemented.

Where possible, this assessment of skills should be competency based. A number of organisations have successfully implemented a system whereby the trainee is responsible for initiating the skills assessment on new or existing pieces of equipment. They are given a time frame by which to become competent. For example, one organisation expects new staff to apply to be assessed for competence within three months of being employed.

An example of a manual handling skill assessment is given below. More information is also provided in the *Manual Handling Competencies for Nurses* (available from the NSW Nurses' Association).

Manual handling assessment for use of the slidesheet

sample – Fairfield Health Service, adapted from Bankstown

This is one example of an assessment for use of a slidesheet. The *Manual Handling Training for Nurses* package has another example of a skill sheet for slidesheets.

This form is provided as an example only. It may help as a guide in developing manual handling programs for other workplaces. When developing or revising your own manual handling program you will need to take into account the particular circumstances of your own workplace to make sure you meet your obligations under the legislation.

This is not an official form. You are not legally required to complete it or to use it as part of your manual handling program.

Manual Handling assessment for use of slidesheet

Name:			Position:	
Department:			Date:	
Moving partner:			Assessed by:	
Competency statement by assessor:				
Is the staff member competent?	YES	NO	N/A	Comments/identify if further training required
Use the following questions in relation to preparation for the slide sheet use.				
Did they explain clearly to the patient what is going to happen and why?				
Did they place the slide sheet under the patient's shoulders and buttocks?				
Did they gain agreement with their partner, ie are they ready to slide?				
Did they check that the bed brakes were on?				
Did they adjust the bed height before attempting the lift?				
Did they remove all obstacles?				
Apply ergonomic principles				
Use the following questions in relation to the principles of the semi-squat position.				
• Back - normal spinal curve maintained whilst in the semi-squat position?				
• Knees - their knees bent and maintained whilst using the semi-squat position?				
Did they position their feet comfortably apart with the front foot pointed in the direction of the lift?				
Did they securely grip and hold the slide sheet close to pelvis with their arms bent appropriately?				
Did they move the load keeping it close to their pelvis?				
Did they co-ordinate the move, ie 'Are we ready 1,2,3, lift.'				
Did they slide in short distances at a time if required?				
Did they slide in a smooth fluid way?				

Did each take their fair share of the weight?				
Did they avoid twisting their spines?				
Did they remove the slide sheet by sliding it out under itself?				
Patient's needs				
Did they meet the patient's needs by ensuring dignity and privacy?				
Did they meet the patient's needs by ensuring safety and comfort?				

Competency attained? Y/N – if No, date of next assessment and/or training			
Assessor		Signature	

3.10 Evaluation and review

Good program evaluation involves a mixture of many types of evaluation methods.

Types of evaluation

Evaluation of the success of a manual handling management program can be difficult because many manual handling injuries are cumulative in nature and the causes of these injuries are not always immediately apparent or measurable. Despite this it is important to measure how well program implementation is progressing and how successful control measures are. This helps with planning.

There are a variety of different evaluation methods. For example evaluation can be targeted at a single control measure or the impact of a number of control measures. Also in some cases an expert is required to undertake the evaluation such as a cost benefit analysis or a postural analysis. Following are some of the evaluation methods commonly in use.

1. Evaluation of specific control measures

Evaluation of control measures to determine their suitability is an important aspect of any manual handling program. User surveys can also give feedback on the success of a control measure and what, if any, changes are required to improve it. However, there are other methods of evaluating control measures including the use of statistics, which can also be useful.

2. Negative performance indicators

Simply measuring negative indicators such as workers compensation costs, injury rates or injury severity rates does not give a true indication of the work being done to control manual handling hazards or the success of this work. In fact it can encourage management and staff to hide the injuries to provide a better result. However, injury statistics can be used in other ways such as to monitor the success of a particular initiative.

3. Positive performance indicators

It is important to develop methods of evaluating the work being done within the program. The benefit of measuring positive indicators of this work is that it is possible to identify areas of the program requiring improvement and to measure the changes over time. A system audit such as the Numerical Profile in NSW Health is an example of a positive performance indicator. The use of both positive and negative indicators gives the most balanced approach to evaluation.

Section 4 – Case studies

The case studies are representative only. Their inclusion in this guide does not indicate that WorkCover endorses the particular approaches taken.

Any forms, checklists or other documents included with the case studies are included as examples. Their inclusion does not indicate that they are official forms or that WorkCover requires or endorses their contents. Copyright in forms, checklists or other documents remains with the copyright holder, and has not been assigned to WorkCover. Use of the material contained in forms, checklists or other documents published in this Guide may breach copyright unless specific permission is obtained from the owner of the documents.

WorkCover checklists may be used freely. Where checklists or other forms are provided by other organizations, specific permission should be obtained.

4.1 Mobility Program, UnitingCare Mayflower Nursing Home

Key areas

Key areas include: mobility programs, policy, procedures and criteria, minimisation of aggression, patient assessment, patient vs worker rights.

Solutions

Position in hierarchy of controls: elimination of risk, design and redesign, procedures.

The problem

The Director of Nursing found that the mobility program was creating risks of injury to nurses attempting to walk unwilling and extremely dependent patients.

The process

A working party was formed to review the mobility program. All persons involved in the program were represented, including the physiotherapist, nurse managers and activity nurses.

Specific problems identified were:

- mobilising was often continued at the relatives' request
- patients' desire for mobilising varied from day to day
- unwilling patients could be verbally or physically abusive
- activity nurses did not have the authority to make decisions about whether to carry out mobilisation or not
- resources were being spread thinly with some patients needing three nurses for mobilisation
- there were no criteria for reassessment or cessation of the program.

The working party revised the policy and developed criteria for assessing patients' wishes; when to reassess and when to cease the program; and determining what level of participation patients should have.

Solution: an outline of the revised mobility program

The aim of the program and criteria were clearly set out and communicated to nurses, patients and relatives.

The aim of the mobility program is to assist patients to retain their movement and mobility and provide opportunities for them to improve their performance and independence. The program aims to increase the patients' feelings of dignity and self-respect. The patients' participation is voluntary. However, family and friends

are involved in the process. The program also aims to prevent the increase in nursing workload that arises when patients' mobility declines and to ensure adherence to the *Occupational Health and Safety Act and Regulation*. The nursing team and the activity nurses are involved in the achievement of these shared goals.

Selection categories for the program

Category	Criteria	Activities	Assessment
1a) Rehabilitation	Well motivated Recent injuries Potential for improvement	Functional activities, walking, independence, transfers, standing, bed exercises, personal care, weight bearing	Physiotherapist, nursing staff
1b) Maintenance	No longer needs full rehabilitation activities Has achieved their own maximum		
2) Maximising function	Gradual deterioration, Unknown potential Progressive illness	Walking Transfer Training and practice.	Physiotherapist, nursing staff
3a) Preventative	Prevent health complications, maintain ease of handling Able to bear weight May be able to walk with maximum assistance	Passive exercises, transfers, standing	Physiotherapist, nursing staff Patient assessed for 3b) if mobilising requires more than two nurses
3b) High dependency, immobile	Unable to bear weight	Passive exercises, minimise lifts	Physiotherapist, nursing staff

Contraindications for mobilising

- attempted or actual physical aggression
- refusal
- verbally abusive and uncooperative
- unable to participate due to their physical condition.

If above behaviours are repeated then patient can be removed from the program.

Procedure

- the patient will be considered and assessed for the mobility program initially on admission, and by medical practitioner referral if there is a change in patient health status or willingness
- the patient will be assessed for acceptance and category by the physiotherapist and nurse
- the physiotherapist will set activities and provide a management plan

- reassessment will occur:
 - for all patients after one-month trial period
 - following deterioration in physical or mental condition
 - at least once per year
- nurses will assess when patients have gained independence in mobility and can graduate from the program
- mobility nurses will assess the patient's willingness to take part on a daily basis and a team decision will be made about when a patient exits the program.
- if the patient's relatives or guardian require a second assessment or additional treatment, the relatives are at liberty to enter into a contract with a physiotherapist of their choice at their expense.

Record keeping and documentation

Documentation should be completed and kept up-to-date by the nurse on a daily basis. The patient should be exercised at the frequency indicated in the chart and the results or remarks recorded. Failure to complete the exercises or anxious or negative behaviour should be recorded. Mobility program charts are to be kept at the nurses' station on each floor.

Review

The program will be evaluated during the fourth week and at regular intervals after receiving input from the nursing team, activity nurses, Deputy Director of Nursing, senior registered nurse and from registered nurses' meetings. The findings will be incorporated into the program.

Evaluation of solutions

The revision of the mobility program resulted in benefits to patients and the nursing home. The risk to nurses from uncooperative or very dependent patients was eliminated. Following implementation of the program, there was a decrease in short-term illness and injuries in nursing staff due to aggression. There was an increase in productivity. Two patients were rehabilitated into the community. The payback time for the cost of revising the program was calculated to be 1.3 months, after which the nursing home was in front. The cost of delivering the old program was calculated at \$23.20 per hour and the cost of delivering the new program at \$15.18 per hour. The cost of the improvements consisted of the wages of nurses taking part in the working group which amounted to \$4773.

4.2 Manual handling risk assessments of clients in their home – Home Care Service of NSW (now part of the Department of Ageing, Disability and Home Care)

Introduction

This case study reports on the Manual Handling Program for the Home Care Service of NSW, which was commenced in 1998. In 2003, Home Care became part of the Department of Ageing, Disability and Home Care (DADHC). The Home Care Manual Handling Strategy has continued to operate during this period of organisational change and in 2004/5 is being integrated into the Manual Handling Strategy for DADHC. Due to the success of the Home Care program many aspects are being adopted across DADHC.

Some of the improvements and changes for DADHC are outlined at the end of the Home Care case study.

Key Areas

Key areas include: client assessment, policy procedures, integrated assessments.

Solutions

Position in hierarchy of controls: design/redesign work process.

The problem

Home Care Service (HCS) of NSW is a statewide service, which employs approximately 4000 care workers with varying levels of skill. The majority of these care workers work unsupervised in over 55,000 uncontrolled workplaces - their client's homes. Domestic tasks and personal care are undertaken for clients, usually by the same care worker. One of the challenges in implementing their manual handling program was to develop an integrated risk assessment tool, which included all the tasks that the worker was to perform along with the client assessment.

The process

Using internal specialists and a consultation mechanism, an integrated assessment tool was developed. The tool was tested and modified several times prior to its implementation. Implementation of the assessment was part of the overall program and required the training of all carers. This training was competency based and included all of the tasks, which would be carried out as a result of the client assessment.

The solution

The following types of assessments were developed and implemented to ensure that the client's home could be established as a safe work environment. These assessment methods may also be used in areas where nurses are employed such as group homes and community nursing.

They include the following:

- An integrated OHS risk assessment is conducted for each new client. This incorporates manual handling risks. In addition, HCS assessors have been specifically trained in applying the risk management approach to the assessment of the client. The OHS risk assessment covers:
 - client, eg ability to mobilise and perform certain tasks
 - task, eg those that will be undertaken by the Care Worker
 - environment, eg bathroom, floor surface access, ventilation
 - equipment, eg the bed, the chair, mobility aids, hoists
 - staff, eg number of staff required.

- Specialised manual handling risk assessment utilising occupational therapists for staff who provide personal care services to clients with complex care needs. The need for assessment may be identified as part of the initial OHS assessment or for existing clients during the course of service provision. There are specific criteria for occupational therapy assessments including:
 - households where staff are at risk according to the manual handling policy ie households where high risk manual handling procedures are occurring or are likely to occur as part of personal care service and there are no adequate procedures already in place
 - households where hazards have been reported in relation to the manual handling tasks involved in personal care service which have not been resolved
 - households where injuries/incidents have occurred in relation to personal care services and there has been no action to avoid recurrence of injuries.

Risk control

- The subsequent control strategies include home modifications, and prescription of equipment to ensure that the client's home is established as a safer work environment. This occurs prior to the commencement of service delivery.
- Manual handling procedures are documented for each client to provide consistency in the handling method.
- Generic training is provided, focusing on the work practices of employees. The training involves an application of the principles of manual handling to domestic assistance and people handling tasks.
- There is also task specific training where techniques learned in the generic program are applied to individual clients in the work environment.

DADHC Manual Handling Program

As mentioned previously, DADHC has developed a Manual Handling Policy. The policy is supported by *Guidelines for the Prevention of Manual Handling Injuries*, which provides additional information on implementing key elements of the policy. There are Manual Handling Risk Management Procedures that provide practical tools and resources to ensure consistency in documentation and implementation of risk management processes which also meet legislative requirements.

The procedures include:

- manual handling risk identification and assessment checklist
- safe work procedures template
- standard safe work procedures for manual handling tasks such as vacuuming, laundry, etc
- safe work procedure - client manual handling plan
- high-risk client handling tasks.

The Home Care Services of NSW manual handling training programs have been reviewed in order to meet the needs of all DADHC service streams. The new package is *Essential Manual Handling*, which is presented in modules depending on the nature of the participants work. The underlying principles of the training remain the same as the Home Care package.

Occupational therapy manual handling advisors are being utilised across DADHC service streams to conduct expert manual handling risk assessments with a priority of eliminating high-risk tasks from staff routines.

The program commenced implementation January 2005 on a targeted basis across high-risk sites. There will be an extensive evaluation and continuous improvement of the program.

4.3 Bed Selection, UnitingCare Mayflower Nursing Home

Key areas

Key areas include: beds, trolleys/wheels, patient handling, equipment design and purchasing, compatibility with other equipment, workplace layout and building design.

Solutions

Position of solutions in hierarchy of controls: design/redesign, procedures.

The problem

The UnitingCare Mayflower Nursing Home was planning to replace all beds progressively. The major manual handling risks identified for the currently used beds were:

- the brakes only locked the wheels at the foot of the bed. The bed therefore moved during patient handling and bed making and when the patients leaned on it (discouraging patient independence). To solve the problem, legs had been attached to the bed. It was then of fixed height most of the time, but could be wound up for bed making, moving or cleaning
- the traditional pull out and screw down type headrests had given nurses manual handling problems. They had ceased using the headrests, preferring to use boomerang pillows instead
- The height adjustment winder mechanisms were regularly breaking and were often left protruding, resulting in injuries to nurses.

The process

A two-page questionnaire was given to all staff involved in using the bed, including the nurses, activity aides, maintenance staff, wards assistants and cleaners. The questionnaire asked about activities involving the bed, identified incidents and injuries associated with beds, asked for desired and disliked features, and collected patients' and relatives' opinions.

Responses indicated that:

- the most commonly used feature was the bed rail
- the most common injuries were to fingers and hands while using the bed rails and while making the beds, when fingers became caught in the mesh base
- the wind-up handle caused injuries to hands and legs
- most nurses wanted a height adjustment mechanism they did not have to stoop to use, a headrest to improve patient comfort, better bed rails, and a better attachment point for catheter bags, restraints, etc.

A working party was chosen, consisting of representatives of night staff, nurses, maintenance, wards assistants, cleaning, infection control, occupational health and safety, purchasing and training staff. A workshop was conducted to develop a checklist. It was trialled on the existing bed and then further refined.

Four manufacturers were invited to provide beds for evaluation. Only electric beds were evaluated. Beds were trialed with a pressure mattress and patient on them. The bed selection checklist included the following essential features:

- colour-coded brakes that readily indicate whether the brakes are on or off
- one action to brake all four wheels
- height adjustment by electronic handset
- steering mechanism for manoeuvring and transporting the beds
- electric backrest adjustment
- availability of bed extensions for tall patients

- a solid mattress base to prevent finger injuries
- bed rails that do not trap fingers, limbs, cords or tubing.

The solution

None of the beds trialed had acceptable rails though one bed came close to meeting requirements. The manufacturer was prepared to modify their bed design to meet all the essential criteria and this was the bed eventually purchased.

Evaluation of risk control effectiveness

The risk of manual handling injuries was successfully reduced. The new bed allowed nurses to adopt a better posture, the risk of finger injuries when bed making was eliminated and bed making times were reduced.

4.4 Manual handling strategies for lower leg dressings, Sydney Community Nursing

Key areas

Key areas include: work environment, patient individual handling needs.

The activity

Nurses often identify the activity that involves patient leg handling for dressing application, as a manual handling problem.

Problems include:

- adopting an awkward posture when applying the dressings and compression bandages to legs
- lifting and holding legs while bandaging
- dressings and bandaging often involved sitting on the floor while the patient sat in a chair
- applying compression stockings.

The process

Common risk factors identified include movements, awkward postures, layout, legs held for long periods, tasks performed in an uncontrolled work environment and perhaps no specific equipment to assist with the job.

Community nurses recognise that there are some general limitations to their work:

- patients' homes are often very small and cluttered
- patients can be particular about where and how treatment occurs
- low beds may make procedures on legs difficult to carry out
- many procedures to legs are attended with patients sitting in a chair with their foot on the floor, either holding their leg up themselves or with the nurse supporting it
- nurses squat, kneel or sit cross-legged on the floor to complete tasks
- wounds can be complex and require a long time to complete the task.

Possible strategies

On initial assessment, a contract is made between nurse and patient. This involves the patient and nurse agreeing where, how and when the procedure will be undertaken.

If the patient is seated:

- the limb needs to be elevated upon a piece of furniture
- use of mirrors may be indicated for wounds at back of legs
- use of hoist and sling to elevate and hold leg in position
- nurse may choose a portable camp stool to sit on, and position her/him self for easy access to the limb.

If patient is in bed:

- use hi-low bed to have the wound at best level for treatment
- the patient may use padded foot board to elevate limb
- use of foam wedge to bend knee over.

To apply stockings:

- there are different versions of stocking applicators available to trial
- use of satin/slippy material sockettes to ease stocking over stiff arches
- use of rubber gloves to ease out creases, and pull stockings up into position.

If procedures are complex and involve postures sustained for long lengths of time, then the nurse should plan to have periodic rest breaks.

Manual handling can often be reduced, if not eliminated, by strategies.

Sydney Community Nursing Service has found that there is no one single solution for handling lower limbs. Each patient must be individually assessed by the Service's Risk Assessment Tool.

4.5 Patient hoist wheels, Southern Highlands Private Hospital

Key areas

Key areas include: work environment, equipment design, patient handling, wheels and castors.

Solutions

Position of solutions on hierarchy of controls: design/redesign, manual handling aids.

The problem

Nurses reported that the carpets in the newly built hospital made the mobile patient hoist too difficult to push. As a result the nurses did not use the lifter.

The process

Rather than remove the carpets, the equipment supplier was consulted to see if there was another solution. The wheels on the hoist were made of rubber, which are suitable for smooth, hard floors but not for carpet. With a patient in the hoist, the wheels would sink into the carpet and greatly increase the force needed to push the hoist. Different types and size of wheels were considered. It was not possible to change the wheel diameter as this would affect the compatibility of the hoist with the beds.

The solution

The rubber tyres were replaced with harder polyurethane wheels.

Evaluation of risk control strategy

Replacing the rubber wheels with polyurethane reduced the force required to push the hoist by about 40 per cent. Increasing the wheel size would also have assisted with the problem. However, in this case, the clearance under the beds was a limiting factor.

4.6 Handling the bariatric patient, Manning Base Hospital and the NSW Ambulance Service

Key areas

Key areas include: obesity, equipment solutions, interface issues, management of high risk tasks.

Solutions

Position on the hierarchy of controls: design/redesign and procedures.

The problem

At Manning Base Hospital a survey revealed that there was an increasing number of admissions of obese patients and these were identified as a manual handling hazard which needed control. In 2003, 101 patients over 100 kg were admitted. Of these, 14 patients weighed over 170kg. In 2004, this rose to 194 admissions (with 46 patients above 170 kg). Not only did the hospital have difficulties but the ambulance officers also experienced difficulties in retrieving the patient and delivering them to the hospital bed.

The solution

A special management plan for all patients over 150 kgs was developed. The ambulance service now notify the Emergency Department of bariatric patients, prior to arrival.

The admitting personnel were made responsible for identifying the actual or approximate weight of the patient before admission. This involves liaising with the ambulance service, with admission clinics and admitting doctors.

The Nurse Unit Manager (NUM) of the destination ward is informed in advance so that appropriate equipment can be obtained. Manning Base Hospital has a special heavy duty bed, electric lifter, commode chair and wheel chair. This equipment is located and transported to the ward.

Special procedures have been put in place to assist the ambulance service to cope with obese patients when bringing them into the hospital. A height adjustable heavy duty bed is taken out to the ambulance when the hospital is informed of the imminent arrival of an obese patient and a slideboard is used to slide the patient directly out of the ambulance onto the hospital bed.

The Ambulance Service of NSW have a special stretcher to cope with patients over 125 kgs as this is the weight limit of their stretcher. This 'megalift' stretcher has 10 handles and usually requires at least six handlers to get the patient into and out of the road ambulance.

The ambulance service also have a special truck fitted out with a hydraulic platform to get the patient in and out of the truck.

4.7 Training staff in equipment usage, Nepean Hospital

Key areas

Key areas include: training, skills, introducing new equipment, assessment of competency.

Solutions

Position on the hierarchy of controls: training.

The problem

When Nepean Hospital purchased their 100 air assisted transfer and repositioning systems (ATR system). they realised that they needed to implement the training rapidly over a period of weeks in order to ensure the effective and trouble free implementation of the ATR system. The ATR system is a device for transferring patients between bed and trolley/operating table/Xray table. It was intended to be used under every dependent patient admitted to the hospital, and left in place underneath them.

The solution

An entire package was developed to support the introduction of the ATR system. It contained indications for use, step by step instructions for how it is used, criteria for when it can be removed, laundering methods and a competency checklist for training purposes.

Intensive training of everyone on the Patient Handling Working Party was carried out until everyone was competent in the ATR system's use. These people then became trainers and became responsible for ensuring that 2000 employees became competent over a three week period. Once assessed as competent that employee then became a trainer and assessor.

It was up to every employee to ensure that they were assessed during the implementation period. Because assessment of competency was done during a real task, this was done on the ward or in the unit and did not require a substantial commitment of time.

The standardised training materials ensured that the tiered approach to training did not lose its quality or effectiveness.

Manual Handling Competencies for Nurses have been developed for use by educators who are designing manual handling curricula. The competencies include three skill levels, ranging from the beginner or inexperienced nurse to the senior manager. They are available from the NSW Nurses' Association or on WorkCover NSW website.

4.8 Evaluation of absorbent incontinence pads, Don Geddes Catalina Memorial Aged Care Centre

Key areas

Key areas include night disturbances, bed wetting, introducing new clothing, positive performance indicators, evaluation of specific control measures, systems of work, productivity improvements, aggression management.

Solutions

Evaluation and review of specific control.

The problem

The Don Geddes Catalina Memorial Aged Care Centre is a nursing home which is part of a not for profit organisation providing nursing home, hostel, self care units and community care services for the aged. It consists of two units with a total of 63 beds. All of the residents require high levels of care and the majority are bed and chair fast. Many have dementia and bed wetting is a predominant issue.

Don Geddes Catalina Memorial Aged Care Centre was interested in improving the way they worked and undertook a trial of incontinence pads (underpants) for the residents who required them overnight. The aim of this trial was to see the impact on night disturbances and to reduce the amount of laundry being used. However, the outcome also had a positive effect on manual handling requirements.

The solution

The underpants are an alternative to absorbent sheets placed in the bed and have resulted in a significant reduction in the number of times residents wake and require attention during the night.

Evaluation

There has been a 74 per cent reduction in the number of nighttime disturbances by residents. Consequently residents have a much better chance of having a good sleep, which improves their quality of life and reduces behavioural problems.

This reduction has also had a positive impact on manual handling because there has been a 50 per cent reduction in the use of linen. This means that there has been significant reduction in the number of times the beds are changed and the number of times residents are assisted out of bed and have their clothes changed by nursing staff. The elimination of this handling has significantly reduced the risk of injury from manual handling and has also considerably saved on laundry costs.

4.9 Evaluation of injury records, Manning Base Hospital

Key areas

Key areas include: incident reports, introducing new equipment, maintenance, equipment audit, positive performance indicators, negative performance indicators.

Solutions

Evaluation and review.

The problem

The Manning Base Hospital recently undertook a review of its incident reports. This review identified that the hospital beds, many of which were 20 years old, were a significant cause of the manual handling injuries.

Evaluation

Full analysis of the problem showed that out of 32 injuries, nine injuries were related to the design of the beds. The results of the review led to an audit of all the hospital beds to see if they could be upgraded with maintenance or if they had to be replaced. Some beds were not maintainable but a number were.

The solution

A contractor was employed by the maintenance department to repair some beds over a three-month period. An adjustable height platform was also purchased to ensure that bed maintenance is performed safely at a height that encourages good back posture by the maintenance staff. There is also an electric bed replacement program. All the beds will be gradually replaced with electric beds. Continuing review of the incident reports will give an ongoing indication of the success of the bed maintenance and replacement program.

Ongoing improvements

The following on going improvements have been noted at Manning Base:

- the electric bed replacement program is continuing. Funding of \$68,000 per year for the next four years has been approved
- there have been no bed-related manual handling incidents to either staff or patients since the introduction of the bed replacement program
- specialised bariatric beds have been purchased – two 250 kg electric beds and one 350 kg electric bed.

Overall, the electric bed replacement program has been very successful – the number of bed related physical tasks has decreased and staff morale improved.

Section 5 – Sample checklists

Checklist for evaluating patient handling hoists prior to purchase

Workplaces in NSW are required to comply with the provisions of the *Occupational Health and Safety Act 2000* and the *Occupational Health and Safety Regulation 2001*. This legislative framework requires employers (and others with responsibility in the workplace) to adopt a systematic risk management approach – that is, to identify foreseeable hazards that have the potential to harm people at the workplace, assess the risk of harm, eliminate those risks which are reasonably foreseeable and where it is not practicable to eliminate risks, the employer must control them.

This risk management approach must be done in consultation with staff – this allows employees to contribute to the making of decisions affecting their health, safety and welfare at work.

When considering how to control risks, the legislation provides a preferred hierarchy of control. Good design of equipment, work practices and the working environment is the preferred way to eliminate manual handling risks in the workplace.

This checklist will help you to select a floor or ceiling mounted hoist for your facility. First you should think about **why** you need a hoist. The first question will help you do this. You may decide that you need more than one type of hoist. Next you should go through the rest of the questions on each hoist you are evaluating. The checklist will help you to **choose between the different hoists**. Make sure that the purchasing officer or an appropriate person answers question 10. Try to answer every question. Make plenty of comments on the form.

5.1 Evaluating patient handling hoists prior to purchase

This form is provided as an example only. It may help as a guide in developing manual handling programs for other workplaces. When developing or revising your own manual handling program you will need to take into account the particular circumstances of your own workplace to make sure you meet your obligations under the legislation.

This is not an official form. You are not legally required to complete it or to use it as part of your manual handling program.

Hoist Selection Checklist

FULL NAME OF HOIST	
Capacity _____kg	<input type="checkbox"/> ceiling mounted <input type="checkbox"/> floor mounted

Where will you be using the hoist? (home, bathroom, ward, operating theatre, car, acute or rehab)

1. What do you want to do with it?	TICK
Bed to commode or shower chair and back	
Bed to chair and back	
Bed to bath or shower trolley and back	
Bed to toilet and back	
Chair to chair	
Positioning or repositioning in the bed/wheelchair	
Changing continence pads or clothing	
Into and out of water chairs	
Lifting patients off the floor	
To and from the ambulance stretcher	
To and from the X-ray table/operating theatre table	
Into and out of cars	

Consider what features the hoist should have (pivot head, weighing scales, toileting/bathing attachment, Jordan frame)

Consider what **type** of hoist you need (ceiling hoist, standing, full body, toileting or other special hoist)

2. Adjustment mechanism	YES	NO
Can the hoist be lowered to the floor with patient in sling?		
Can the hoist be raised to go over the highest point required for your needs eg bath, whirlpool bath, ambulance stretcher, etc		
Is the height adjustment mechanism easy to operate with someone in it?		
Is the mechanism conveniently located for staff of different heights?		
Can you operate the mechanism without bending?		
Are the control box and battery located in a position to prevent breakage?		
Are the controls easy to understand?		
Does your ceiling hoist have both vertical and horizontal powered functions?		
Does your ceiling hoist have a distance memory function?		
Can the controls be operated out of the patient's reach (if the patient becomes aggressive/agitated while in the hoist)?		

Comments

3. Slings	YES	NO
Are there instructions on how to apply the sling?		
Is it easy to understand how to apply it?		
Can the sling be applied/removed without lifting the patient?		
Are there handles at the back of the sling to assist with positioning?		
Do the sling and clips/hooks stay in place securely after the hoist is activated?		
Is the sling acceptable to the patient's dignity?		
Can one person put the sling on and take it off?		
Does it come in different sizes and types (eg head support, mesh for showering)?		
Are there a variety of slings available, eg full body or toileting?		
Are slings/attachments clearly labeled with their size/weight capacity?		
Does the sling or other attachments restrain the patient safely eg violent or disorientated?		
Is it easily washable and dryable?		
Is it impossible to put the sling on incorrectly?		
Is the sling comfortable for the patient?		
Is it possible for the patient to slip out of the sling?		
Do the clips/loops attach easily with minimum force?		
Is it obvious how the slings attach?		
Does the sling accommodate the individual patient needs, eg bilateral amputee?		

Comments

4. Brakes	YES	NO
Are the brakes applied with one action?		
Are the brakes easy to engage and disengage?		
Is it easy to tell when the brakes are on?		
Is the brake pedal location convenient (accessible and visible)?		
Is the hoist steady when the brakes are on?		

Note: Brakes are not required on a ceiling mounted hoist.

Comments

5. Usability	YES	NO
Is it easy to widen the legs for stability/access?		
Can it be easily folded up for storage (if necessary)?		
Is the hoist easy to use and requiring only minimal training?		
Can the operators position themselves close to the patient while operating the controls?		
Is there signage on the frame of the hoist for capacity and sling sizes?		

Note: Ceiling mounted hoists are easier to push and pull and steer than floor hoists.

Comments

6. Safety	YES	NO
Is the hoist tested to the Australian Standard AS3581-88 or equivalent?		
Is the hoist free of protruding parts/sharp edges that could cause injury to patients and others?		
Is the hoist free of trapping hazards for the fingers, hands and other body parts?		
Are all the parts involved in supporting the patient firmly attached so that they do not fall off accidentally?		
Is there an emergency stop (electric)?		
Is there a risk of the patient accidentally hitting their head on the boom?		
Can the patient hold somewhere on the hoist, for security?		

Comments

7. Cleaning and maintenance	YES	NO
Is the hoist easy to clean, including the castors, with no potential dirt traps?		
Are the spare parts readily available locally?		
Can the hoist be maintained on site for routine and breakdown maintenance? (if not, is a replacement hoist provided?)		
Is there a separate battery charging unit with two batteries (one in use, one being charged)?		

Comments

8. Transportation	YES	NO
Is the hoist easy to move over different floor surfaces when loaded?		
Does the hoist fit into the bathroom?		
Does the hoist fit into the toilet?		
Does the hoist fit under the bed?		
Does the hoist fit around the chair/recliner?		
Does it steer easily with one person when loaded?		
Is the hoist easy to store (does not require large amounts of storage space)?		
Is there enough circulation space in the area it will be used (door width)?		
Is the handle height suitable for staff of different heights?		

Comments

9. Compatibility of components	YES	NO
Does the hoist come with attachments eg commode chair, Jordan frame or weighing scales?		

10. Purchasing (purchasing officer, in consultation with other relevant staff)		
Cost of hoist, slings and battery		
Discounts available		
Warranty/replacement/repair policy		
Conditions of service agreement		
Availability of spare parts		
Number of lifts before battery requires recharge		
Life of battery		
Maintenance requirements		
Education/training provided		
Accessories available eg slings, different castors, commode chairs		

	YES	NO
If new model introduced, will service continue to be provided to the old model?		
Replacement of the hoist if needed to be taken away for repairs?		
Available for trial or hire prior to purchase?		
Storage space required?		

11. Trial period

It is important that staff trial the hoist/s prior to purchase. Make sure that the hoist is demonstrated to staff at the beginning of the trial period. Ask staff to use it as much as possible. A trial period of at least 2 weeks is suggested. The hoist should be used on all shifts during this time. Attach a comment book to the hoist asking for staff opinions and comments. You may wish to seek the advice of a physiotherapist or an occupational therapist if you are trialing the hoist for a particular patient.

	YES	NO
Has the hoist/s been trialed?		
Does the hoist meet the needs of users?		

12. Outcome of trial

	YES	NO
The hoist/s will be purchased		

Reasons for decision

Name			
Position			
Signature		Date	

5.2 Evaluating beds for the health industry

This form is provided as an example only. It may help as a guide in developing manual handling programs for other workplaces. When developing or revising your own manual handling program you will need to take into account the particular circumstances of your own workplace to make sure you meet your obligations under the legislation.

This is not an official form. You are not legally required to complete it or to use it as part of your manual handling program.

Workplaces in NSW are required to comply with the provisions of the *Occupational Health and Safety Act 2000* and the *Occupational Health and Safety Regulation 2001*. This legislative framework requires employers (and others with responsibility in the workplace) to adopt a systematic risk management approach – that is, to identify foreseeable hazards that have the potential to harm people at the workplace, assess the risk of harm, eliminate those risks which are reasonably foreseeable and where it is not practicable to eliminate risks, the employer must control them.

This risk management approach must be done in consultation with staff – this allows employees to contribute to the making of decisions affecting their health, safety and welfare at work.

When considering how to control risks, the legislation provides a preferred hierarchy of control. Good design of equipment, work practices and the working environment is the preferred way to eliminate manual handling risks in the workplace.

This checklist has been developed to assist those responsible for purchasing hospital, residential care or nursing home beds for a facility to select features which are suitable for their needs and the needs of the patients.

In order to reduce the risk of injury to users and patients it needs to be designed so that it is fit for the purposes it is used for. The bed is most importantly the workstation of the nurse. However beds are also used as trolleys and are examined with this purpose in mind as well. Other persons use the bed in the course of their work – ward assistants, cleaners, maintenance staff and other paramedics.

This checklist is specifically designed for assessing the standard hospital or nursing home bed. It may be foot operated, electric, gas-assisted or wind-up. If assessing electric beds the questions on effort may not be relevant.

First, decide what you want to use the bed for eg dementia, aged care, acute care, surgical, medical, orthopedics. Decide if you need a low-rise bed or a high-rise bed.

The checklist can also be used as a starting point to develop criteria for other types of beds, eg, adolescent beds, delivery beds. Different dimensions will apply here but many of the criteria are the same.

This checklist is not meant to examine durability of construction, finish, structural strength or mattresses. When examining a bed for purchase the following people need to be involved, as they are all users.

Bed Selection Checklist

As these people examine the bed, tick them off the list:	
nursing	
maintenance	
purchasing	
cleaning	
Chair to chair	
ward staff	
risk manager	
patient	
doctors	
infection control	
physiotherapist	
occupational therapist	

You will need the following equipment: tape measure, hoist, bed attachments, drainage/catheter bag holders.

FULL NAME OF BED	
Manufacturer	
Model	
Date of assessment	

1. The frame	YES	NO	actual
Is the support platform mattress			
at least 2000mm long?			
less than 1000mm wide?			
What is the maximum weight capacity?			
Does the mattress fit the frame properly? – eg doesn't create entrapment points for staff or patients or obstruct the operation of the bed rails			

Length

In considering the length the dimensions should accommodate the 99th percentile British male 1855mm tall patient, and provide clearance for behind the head for pillows and at the end of the feet for tucking in sheets and blankets so that feet movements are not restricted. Some manufacturers can provide bed extensions. These are particularly useful for long-term patients and residents.

Width

Nursing staff should be able to adopt desirable postures without excessive reach distances and bending, when they are carrying out patient care activities. The patient should be able to sleep on their side without any parts of their body overhanging the side of the bed.

Comments

Comments

Height

The bed should have height adjustability to accommodate various activities of users and patients. The minimum height should enable the smallest patient to have his/her feet on the floor when sitting on the bed.

Compatibility with trolleys especially ambulance trolleys is also an issue here for the transfer of patients. Ambulance trolleys at 1000mm high are currently not compatible with most hospital beds.

Low-rise beds are used in areas where the bed needs to be lowered to ensure safety of patients who fall out of bed or climb out of the bed.

High rise bed – Can the height be adjusted so that it can be:	YES	NO	actual
Lowered to 500mm (to the top of the mattress, including any overlay mattress)?			
Raised to 900mm (to the top of the mattress supplied)?			

Low rise bed – Can the height be adjusted so that it can be:	YES	NO	actual
Lowered to 340mm (to the top of the mattress)?			
Raised to 700mm (to the top of the mattress)?			

	YES	NO
Is the footboard high enough to prevent the patient sliding down?		
Is the footboard high enough when overlays or pressure care mattresses are in place?		
Are the footboard and headboard easy to remove and replace?		
Is there a suitable place to attach restraints, drainage and catheter bag holders, monitors and gas cylinders?		
Does the bed have knee break if you require it? (Knee break can be useful in preventing the patient from sliding down the bed, or for positioning patients after knee surgery.)		
Does the bed have sufficient clearance between the lowest point of bed to the floor for the free movement and positioning of hoists (about 120 mm)?		

Manoeuvrability of hoists is affected if wheels are less than 100 mm high. Clearance needs to be examined in all height positions of the bed as the height adjustment mechanism can intrude on this space at any time of the adjustment range.

	YES	NO
Does the bed have sufficiently large buffers to prevent damage to the walls and the bed?		
Does the bed fit into the lift?		
Does the bed fit through the doors?		

2. Height adjustment	YES	NO
Is the adjustment mechanism easy to operate with someone on the bed? This feature should be examined with someone of at least 80 kg in the bed.		
Is the force required to operate the mechanism generally acceptable? (In general the pump up mechanism is preferred to the wind up mechanism, which involves bending. Pump up mechanisms can be either hydraulic or mechanical. Hydraulics are usually easier.)		
Is the mechanism conveniently located? Pump up mechanisms on both sides of the bed are useful as they can be adjusted while the patient is seated on the edge of the bed. If the bed is going to be used with a pressure care mattress in place, then this should be added to the bed when testing.		
Can the mechanism be operated without bending?		

Electric beds

Electric beds allow patients more independence and can result in time saving for nurses, especially with backrest adjustments. Beds should comply with the provisions of **AS/NZS 3200.2.38:1997** : *Approval and test specification - Medical electrical equipment - Particular requirements for safety - Electrically operated hospital beds.* (**Note:** This standard is currently under review.)

	YES	NO
Can the control handset be located conveniently for both patient and staff?		
Does the location make it easy to find and prevent it being damaged?		
Are the controls easy to understand?		
Is there variable speed available?		
Is there a lock out facility available?		

Comments

3. Wheels and Brakes	YES	NO
Does one action put the brakes on all four wheels? (Brakes are one of the most important features of the bed. Most high risk transfers are carried out to and from the bed. Brakes must be fitted on all four wheels. They should be quick to activate and easy to tell whether they are on (users do not have time to run around all four wheels to activate the brakes). If symbols are used to describe the on/off position of the brakes, they should be easily seen while standing.)		
Are the brakes easy to engage and disengage?		
Is it easy to tell when the brakes are on?		
Is the bed steady (unmovable at the head end) when the brakes are on? (Test the effectiveness by leaning on the head of the bed with the wheels in various positions. Patients and nursing home residents are discouraged from independently mobilising if the bed moves when leaned on.)		
Is the brake pedal location convenient (accessible and visible in all positions of the bed)?		
Is the bed easy to move over different floor surfaces?		
Does it steer easily with one person?		
Is there a choice of wheels and castors in sizes and materials?		

Wheels and castors should be selected according to the floor surface. Rubber wheels are suitable for vinyl and hard floors. A hard wheel or twin wheel castor should be used on carpet. Push/pull forces may be doubled if rubber wheels are used on carpet. The bigger the wheels, the easier the bed will be to push specially over ledges such as into lifts. Refer to Guideline 3.7 for more information on wheels and castors

Comments

4. Bed rails	YES	NO
Does the bed rail prevent the patient's limbs and head poking through?		
Are entrapment areas minimised between the mattress and bed rail foot and head boards?		
Is there knee space under the bed for the carer/nurse when the rails are down?		
Can they be used safely without fingers of patients and users and electrical cords, drips and other equipment being trapped? Bed rails are probably the most frequently used attachment in hospitals and nursing homes. If the bed rails fold down completely, fingers, catheters and electric cords can be trapped.		
Are there any instructions on the bed to facilitate attachment of the bed rails/equipment?		
Do they stay up consistently (without falling down)?		

Comments

5. Backrest	YES	NO
Can the backrest be easily adjusted by one person while the patient is in bed? (An electric backrest should be the option of choice because it makes the patient more independent and eliminates or reduces the intervention of the nurse. The gas assisted backrest requires considerable force to be applied with one hand while a patient is resting against it (eg heavy post-op patients). A winder is slower and requires bending to use it, and if left out creates a trip hazard.)		
Is the angle suitable so the patient does not slip down the bed?		
Does the shape/size of the backrest constitute a manual handling or ergonomic hazard?		
Can the pressure care mattress/overlay be used with the headrest?		
Can the backrest be flattened quickly but in a controlled way in an emergency? (Users say they require the backrest to go flat quickly (cardiac arrest) however this needs to be a controlled descent to prevent finger and hand injury.)		

Comments

6. Electrical mattresses	YES	NO
Is the supply cord of electrically operated air mattresses placed away from metal bed frames?		
Can bed rails be used safely without pinch points crushing supply cords?		
Are there clear instructions on electrically operated air mattresses?		
Are residual current devices (RCDs) fitted to electrically operated air mattresses?		
Are cords situated to avoid slips, trips and falls?		
Are mattresses fitted to compatible beds?		

Comments

7. Tilt	YES	NO
Is it easy to understand how to use the tilt mechanism?		
Is it easy to tell when the bed has been returned to a horizontal position?		
Is the force required to raise and return the bed end, acceptable (with a patient in it)?		
Can one person tilt it easily? (When tilting a bed the forces that affect the nurse can be sudden and unexpected after releasing the mechanism. The direction of travel on release varies from bed to bed. The end of the bed may go upwards or downwards according to the centre of balance of the patient (determined by their weight and position in the bed)).		

8. Safety	YES	NO
Is the bed free of protruding parts that could cause injury to patients, staff and others?		
Is the bed free of trapping hazards for the fingers, hands and other body parts?		
Can the bed be made without the fingers becoming caught in the base? (Mesh bases have been traditionally used as bed bases for aeration of the mattress. However, they are a constant source of finger trapping and are difficult and time consuming to clean. In addition rough edges on the mesh can cause damage to hands as well as bedding. Solid metal with holes for aeration and removable plastic bases are now available.)		
Can all winders on the bed be safely operated?		
Are all the parts firmly attached so that they do not accidentally fall off?		

Comments

9. Labelling	YES	NO
Is the bed labelled with the manufacturer's name, model number and year of manufacture?		
Is the weight capacity of the bed stated on the label?		
Are there written instructions provided at time of purchase?		
If electric has it been certified to AS/NZS 3200.2.38:1997?		

10. Cleaning and maintenance	YES	NO
Is the bed easy to clean, without dirt traps?		
Is the bed easy to repair in the room?		
Can the bed be repaired without special tools?		
Are the spare parts easily available locally?		
Can the bed be maintained on site for routine and breakdown maintenance?		
Is a replacement bed provided if the bed needs to be serviced elsewhere?		
Is the bed made from non-rusting material?		
Can the bed be maintained adequately on a six monthly schedule?		
Is it easy to clean the floors under and around the bed?		
Are replacement electric handsets available?		
Does the bed have battery back up in the event of a power failure?		
Is there a power saving mode available?		

Comments

11. Purchasing (purchasing officer, in consultation with other relevant staff)

Cost	
Discounts	
Education provided	
Instruction booklet provided	
Warranty/replacement/repair policy	
Weight capacity to consider water mattress if being used	
Availability of spare parts	
Service conditions	
Accessories available, including towel rail.	

12. Compatibility of components	YES	NO
IV stands		
Monkey rings		
Bed rails		
Electric bed mover		

Name			
Position			
Signature		Date	

Section 6 – Resources

ANF (Vic Branch) No Lifting Implementation Guide & Checklist, 1998

A Manual of Handling People – Implementing a No-Lift Approach, Kate Tuohy-Main, 1999.

Criteria for Evaluating the Core Elements that Support a Best Practice Patient/Resident Handling Training Program in the Health and Aged Care Sector, Victorian WorkCover Authority, 1998

Standards Australia AS/NZS 4360: 2004 Risk Management www.standards.com.au

Standards Australia AS/NZS 4804:2001: Occupational health and safety management systems - General guidelines on principles, systems and supporting techniques www.standards.com.au

WorkSafe Victoria, Designing Workplaces for Safer Handling of Patients/Residents, 2002

Due diligence at work: A checklist for action on workplace health and safety for company directors and managers, WorkCover NSW, 1997

Guidebook for Architects and Planners, Arrjo, 1996

Guidelines for planning, design and building of facilities (various) Queensland Health, Capital Works Branch, 1998 www.health.qld.gov.au

Implementation of the 'Mobility Chart', Summers A, Graham L, Proceedings of the 32nd Annual Conference of the Ergonomics Society of Australia, September 1996

Introducing a Safer Handling Policy, Royal College of Nursing, UK, 1996

Lifting and Moving People: Choosing the right equipment. WorkCover Authority NSW, 1998

Manual Handling Competencies for Nurses, NSW Nurses' Association, 1998

Numerical Profile, NSW Health Department, 1997 www.health.nsw.gov.au

Manual Handling Policy, NSW Nurses' Association, 2003

Manual Tasks involved in Handling People. Advisory Standard, 2001 Queensland Government, Department of Industrial Relations, Workplace Health and Safety

National Standard and Code of Practice for Manual Handling, National Occupational Health and Safety Commission, 1990 www.nohsc.gov.au

National Code of Practice for the Prevention of Occupational Overuse Syndrome, National Occupational Health and Safety Commission, 1994 www.nohsc.gov.au

NSW Health Department Circular 2001/111 Policy and Best Practice Guidelines for the Prevention and Management of Manual Handling Incidents in NSW Public Health Services www.health.nsw.gov.au

Implementing Occupational Health and Safety in Residential Aged Care: The Guide, Commonwealth Department of Health and Aging, 2001

Occupational Health and Safety in Residential Aged Care. First Steps, Commonwealth Department of Health and Aging, 1999

Pre-purchase Criteria to use in the Selection of Equipment & Furniture – Health and Aged Care, Victorian WorkCover Authority

Strategies to Reduce the Risk of Back Strain in Nursing Homes, Worksafe Western Australia

Transferring People Safely, WorkSafe Victoria, 2002

The Guide to the Handling of Patients, EN Corlett, PV Lloyd, Christine Tarling, JDG Troup & Brenda Wright, National Back Pain Association in collaboration with the Royal College of Nursing, Middlesex, 4th Edition, 1997.

Policy and Best Practice Guidelines for the Prevention of Manual Handling Incidents in NSW Public Health Facilities (2001) Circular 2001/111, NSW Health Department www.health.nsw.gov.au

Manual Handling in Aged Care – A program for carers (2002) training package and protocol, WorkCover NSW – only available through the Australian Nursing Home and Extended Care Association (ANHECA) and Aged and Community Services Association of ACT and NSW (ACS)

Further information

For further information on OHS and workers compensation matters in NSW, contact:

WorkCover NSW
Ph: 13 10 50
www.workcover.nsw.gov.au

For information on the professional, educational and industrial welfare of nurses and the nursing profession contact:

NSW Nurses' Association
PO Box 40
CAMPERDOWN NSW 1450
Phone: 1300 367 962
Fax: 02 9550 3667
www.nswnurses.asn.au

For national standards, national codes of practice and guidance material, contact:

Office of Australian Safety and Compensation Commission
(formerly the National Occupational Health and Safety Commission)
GPO Box 1577
Canberra
ACT 2601
www.nohsc.gov.au

For policies and guidelines relating to different aspects of health including workplace health and safety, contact:

NSW Health
Locked Bag 961
NORTH SYDNEY NSW 2059
Phone: 02 9816 0425

