

Guidance on the Management of Manual Handling in **Healthcare**



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Introduction

This guide provides practical information on managing the risk of injury from manual handling activities in the healthcare sector. The objective of providing such information is to ensure that manual handling work activities are reviewed, that hazards are identified, risks assessed and protective measures put in place to eliminate or reduce the risk of injury.

The guide focuses on the hospital and ward environment but its principles can be applied to other work environments in healthcare.

Incidence and Cost of Manual Handling Accidents in the Healthcare Sector

Manual handling is the highest accident trigger reported to the Health and Safety Authority (HSA) by the healthcare sector. In 2010, 35% of the total number of incidents reported by the healthcare sector to the HSA were manual handling incidents. Reported incidents concern both patient handling and the manual handling of inanimate loads. The most common cause of reported incidents was lifting or carrying (41% of reported incidents in 2010).

Costs associated with manual handling claims vary greatly. It is possible to calculate direct costs but is difficult to comprehensively calculate indirect costs. In a research report commissioned by the HSA, it was estimated that the total cost of the 35 manual handling related claims analysed there was over €2 million.¹

Summary of the Main Elements of the Manual Handling of Loads Regulation

The Safety, Health and Welfare at Work (General Application) Regulations 2007, Chapter 4 of Part 2 (S.I. No. 299 of 2007), also known as the Manual Handling of Loads Regulation, outline the requirements that must be fulfilled in relation to manual handling.

Manual handling of loads is defined in the Regulation and includes any lifting, putting down, pushing, pulling, carrying or moving of a load which, by reason of its characteristics or unfavourable ergonomic conditions, involves risk, particularly of back injury, to employees.

The basic principle enshrined in Part 2 is that where manual handling of loads involving a risk of injury (particularly to the back) is present, the employer must take measures to avoid or reduce the risk of injury.

¹Analysis of the Causes and Costs of Manual Handling Incidents in the Health Care Sector (Dockrell, Johnson and Ganly). Report submitted to The HSA, September 2007 (summary of the recommendations from this report are included in Appendix I).

Three key requirements in this Regulation are:

1. Avoidance of manual handling activities which involve a risk of injury.
2. Risk assessment of manual handling tasks which cannot be avoided.
3. Reduction of the risk from manual handling activities.

At the outset, the employer must assess manual handling operations and identify those which may present a risk of injury. Consultation with employees with regard to protective measures and their effectiveness is required by the Safety Health and Welfare at Work Act, 2005. Examples of protective measures that an employer could implement include:

- Use of a handling aid, such as a trolley, for the transfer of hospital files;
- Training in the use of a patient hoist or sliding sheet;
- Training of clinical staff in patient handling techniques;
- Widening of door openings to allow hoists to fit through;
- Installation of low gradient ramps and slopes to be used instead of steps;
- Undertaking of preventive maintenance programmes for equipment/facilities.

The employer and those who manage the workplace must ensure that they are familiar with the legal requirements. They need to ensure that their policies and procedures reflect their commitment to implement appropriate measures that demonstrate full compliance.

Policy on the Management of Manual Handling in the Workplace

There should be a policy on the management of manual handling. The development of and adherence to a manual handling policy in healthcare is part of demonstrating good governance. This manual handling policy should:

- Lay out how the organisation will meet the requirements set out in the Manual Handling of Loads Regulation;
- Be referred to in the Safety Statement;
- Be developed in consultation with staff within the organisation;
- Be realistic and reflect actual practice.

When developing a policy the following should be taken into account:

- Commitment from the most senior level of the organisation to ensuring the implementation of the policy;
- Commitment to minimal handling of patients and loads through ongoing review which ensures the most appropriate means of manual handling is being employed;
- The principles of prevention – avoidance of risk where possible and evaluation of unavoidable risk with a view to reducing the risk from the manual handling task;
- The need for a balanced approach that considers the wishes and needs of the patient and the provision of quality care while providing a safe work environment;
- The identification of roles and responsibilities of key personnel with regard to the implementation of the policy, including managers, employees and those with particular functions involving manual handling such as occupational health professionals, manual handling advisors, instructors, department heads, health and safety practitioners, physiotherapists, ergonomists and technical services personnel;
- The risk management process including the identification of hazards, assessment of risk, identification and implementation of controls, and the system for performance monitoring, audit and review;

- The manual handling training programme, including the provision of up-to-date manual handling training that is specific to the actual work tasks of the healthcare workers and informed by the manual handling risk assessments;
- The arrangements required for the supervision of handling practices in the workplace to facilitate the transfer of techniques taught in training into the workplace;
- The need for appropriate measures for providing optimum care for specific patient groups – for example, bariatric patients and patients at risk of falling;
- The inclusion of ergonomics in the design process for a new building or refurbishment project, and in the selection of equipment and furniture;
- The accident and incident reporting and investigation procedure;
- Identification of the resources required to manage the risk from manual handling;
- Identification of what competencies are required to implement the various elements of the manual handling policy;
- The means of consultation and communication with employees with regard to health and safety matters including manual handling;
- The procurement process with regard to equipment and related services, such as maintenance of equipment;
- The arrangements put in place to ensure equipment for manual handling is kept in good repair;
- The arrangements for return to work and rehabilitation for employees who have been absent as a result of a manual handling injury;
- The arrangements for managing the health and safety of contract staff e.g. cleaning staff and healthcare staff, with regard to matters such as training needs and incident reporting arrangements;
- The process of review and revision of the policy and the auditing of the implementation of the policy as part of the risk management process.

There needs to be recognition that a multifaceted approach must be used to develop an effective means of addressing manual handling in the workplace. Some of the key factors contributing to safer manual handling are illustrated below.

Factors Contributing to Safer Handling



Manual Handling Equipment

Where it is not possible to avoid a manual handling task it may be possible to reduce the risk by changing the system of work and/or introducing manual handling aids. It is necessary to identify the key responsibilities for equipment management within an organisation, including the maintenance procedures and procurement. It will also be necessary to address funding requirements.

The type of manual handling equipment required within an organisation may vary widely and will be informed by the risk assessment process. The risk assessments will identify:

- Where equipment is required and the type of equipment required;
- Implications for training in use of equipment;
- Requirements for the safe use of equipment.



It is important when procuring new equipment to consult with relevant stakeholders. Equipment purchased must be fit for purpose taking account of the tasks, the work environment, the patient and employee needs. The provision of appropriate equipment has numerous benefits for the patient and the staff (e.g., the use of electric profiling beds to reduce high risk manual handling activities).

Effective equipment management will involve a number of functions and personnel. This may include clinical engineering, health and safety and procurement, and manual handling expertise such as the manual handling advisor and senior clinical management.

Equipment management will include:

- Identifying gaps in equipment needs;
- Being aware of the latest developments in equipment design;
- Ensuring the care and maintenance of equipment;
- Evaluation of equipment prior to procurement to ensure compatibility with existing furniture and equipment;
- Consultation with health professionals in the assessment, selection and use of equipment.

Examples of some patient handling aids include height-adjustable patient trolleys, stretcher attachments to hoists, sliding sheets, transfer boards, overhead hoists, mobile hoists and hoist slings. Other examples of manual handling aids include trolleys used by catering staff and hand trucks used by staff working in the stores area.

Manual Handling Training

There should be a planned approach to the provision of manual handling and patient handling training. There are a number of essential principles that need to be taken into account:

- Training should be part of an overall strategy to reduce risks associated with manual handling;
- There needs to be a system in place to manage the training and education requirements of staff to ensure that their training is kept up to date. This will include identifying staff who require training or refresher training, and making plans to arrange that training. The implementation of the skills taught at training must be supported and supervised in the workplace. Department heads should also have the necessary information, training and support to ensure they can set the standards for safe manual handling in their departments in keeping with the organisation's manual handling policy;
- Staff will need to be instructed on the safe use of equipment and this can be achieved through formal and on-the-job training;
- Training should include the results of the risk assessments with the resulting control measures and be focused on problem solving skills as well as practical handling skills;
- Training should be based on caring with minimal handling;
- Records of training provided and attendance must be kept;
- All new Instructors must attain the appropriate FETAC Level 6 Manual Handling Instructor Award or People Handling Instructor Award through completion of a FETAC accredited training programme.

All existing manual handling or people handling instructors need to attain a FETAC Level 6 Award for Manual Handling or People Handling Instruction.

Accident and Incident Reporting and Investigation

A policy on reporting and investigating work-related accidents and incidents in the workplace is required to ensure that the necessary corrective actions are identified and put in place. This should take account of the following:

- All staff should be aware of the system in place for reporting accidents and incidents;
- Accidents and incidents need to be reported to line management without unnecessary delay;
- Accidents and incidents need to be investigated as soon as possible after the incident;
- Accidents and incident investigations need to be completed by competent personnel;
- As part of an investigation the contributing factors to the accident or incident need to be identified and appropriate corrective actions put in place;
- The accident or incident form needs to be filled out comprehensively;
- There should be a system in place for monitoring trends in reported accidents and incidents as valuable information may be obtained which can inform the risk management process;
- Lessons learned need to be communicated as appropriate;
- There must be a system in place to ensure reporting to the HSA for certain categories of accident or incident (for further information on reporting to the HSA see www.hsa.ie).

Resources and Competencies

The resources and competencies required to implement the various elements of the manual handling policy should be identified. Consideration should be given to the following:

- Identification of the competencies that are required to undertake manual handling risk assessment and to identify controls. It will be necessary to ensure that responsible persons have the training, experience and knowledge required to manage manual handling activities in their area. Access may be required to specialist expertise such as occupational health, health and safety, physiotherapists, occupational therapists, ergonomists or manual handling advisors;
- Managing equipment procurement and maintenance;
- Developing and implementing a training programme for manual handling and patient handling;
- Management of return to work following injury;
- Ensuring comprehensive documentation including the maintenance of accurate records. Such records may include audit results, risk assessment documents, patient care plans, equipment maintenance and training;
- Ensuring that the principles of ergonomics are taken into account in the design and refurbishment of workplaces and when purchasing equipment and furniture.

Communication

Consideration must be given to managing communication within the organisation of key information on manual handling.

The means by which information is to be communicated at different levels within the organisation should be clear. Where manual handling risk assessments have been carried out there should be a system in place to ensure that the findings are communicated to the relevant employees.

If employees who work in different healthcare settings (e.g. community or hospital) tend the same patient, it should be ensured that relevant and appropriate information with regard to manual handling is communicated between the carers involved.

Manual Handling Risk Assessment

Manual handling risk assessment is described here under the following headings:

- Generic ward/department risk assessment;
- Task specific risk assessment;
- Individual patient handling risk assessment.

Persons undertaking manual handling risk assessments should have the necessary competence to do so. When carrying out a manual handling risk assessment the assessor must take account of the risk factors detailed in Schedule 3 of the Safety, Health and Welfare at Work (General Application) Regulations 2007 (see Appendix II).

They include:

- **T**ask: this includes such requirements of the activity as excessive lifting, lowering or carrying distances, physical effort which may be too strenuous etc;
- **I**ndividual: this considers the individual's physical capability, training and knowledge;
- **L**oad: this considers characteristics of a load – which can be either an object or a person – such as weight, size, difficulty of grasping etc;
- **E**nvironment: for example, available space, uneven or slippery floors, unsuitable temperature, etc.

The acronym **T.I.L.E.** summarises these risk factors.

The overall approach to risk management should be outlined in the manual handling policy and be included in the safety statement.

Generic ward/department risk assessment

This is an assessment of the general situation usually found in the ward or department. It takes account of the work environment and how the work is organised with regard to manual handling. This generic risk assessment will identify the range and complexity of manual handling activities occurring. It will highlight problem areas such as space constraint and lack of manual handling equipment, and identify training needs and the controls in place or required. Risk assessments must be reviewed and revised as necessary (e.g., if the review shows that the controls are not effective or there are changes in the workplace which affect the assessment).

A checklist of some of the key controls that should be in place at department level is included in Appendix III.

Task specific risk assessment

Where the ward/department level risk assessment identifies that a manual handling activity presents a risk of injury, the activity must be assessed in greater detail to determine what controls are required. The stages in the risk assessment are as follows:

- Collect information on how the task is performed and identify the key stages of the task – describe how the task is carried out;
- Collect technical information, which may include the load weight, its size, the number of lifts required, the physical dimensions of the work area and general information about the work environment;
- Identify the problems or risk factors. Consider the risk factors listed in Appendix II and decide what risk factors are present in the particular manual handling activity;
- Identify the improvements that are required to avoid or reduce the risk from this activity. Where reasonably practicable, take measures to avoid the need for a manual handling task that has been identified as posing a risk. Where the task cannot be avoided the employer must introduce organisational measures or use mechanical means to reduce the risk. The risk assessment should be documented and should include the controls required. This information should be communicated and made available to all staff undertaking the activity;
- Review the effectiveness of the control measures or solution – the effectiveness is the degree to which the control measures have avoided or reduced the risk of injury.

An example of a risk assessment for an inanimate load and a template for documenting a risk assessment is included in Appendix IV.

It may be practical to combine assessments for similar patient handling tasks (e.g., positioning of patients for specific procedures carried out in theatre, A&E and radiology) and to develop standard protocols for safe handling practices for these activities. The protocols should give details of the sets of conditions under which the procedures should be used and the conditions in which they are not deemed suitable. Where the generic risk assessment does not meet the needs of a specific situation or patient then an individual patient handling risk assessment and handling plan will be required.

Individual patient handling risk assessment in a healthcare environment

Patient handling risk assessments should commence either on admission of a patient or if that is not possible as soon as possible thereafter. Where a patient cannot move independently and manual handling by the employee is needed, an individual patient risk assessment will be required. A patient handling/mobility care plan can be developed following risk assessment. The assessment will include the manual handling needs of the patient and the safest way of undertaking these tasks.

Where the patient is the load the following non-exhaustive list of risk factors should be considered:

- How much help the patient needs;
- The weight and height of the patient;
- Any condition which the patient may have that can affect moving and handling (e.g., poor eyesight, seizures, skin condition, pain, surgery);
- The patient's ability to understand instruction and to communicate;
- Behaviour which may affect moving and handling (e.g., is the person anxious, aggressive etc?);
- Medication which could affect moving and handling;
- History of falls – does a falls risk assessment need to be carried out?
- The involvement of other professional therapists and the question whether the handling plan needs to be integrated with the therapy plan;
- The patient's medical condition;
- Other factors may include: cultural issues; if the person is a child or vulnerable adult; and client's expectations or wishes regarding moving and handling (have they been discussed and considered?)

Identify the type of patient handling activities that are likely to be required and the patient's ability with regard to each task. Patient handling activities may include:

- Assistance with walking;
- Repositioning in the bed;
- Sitting to standing, standing to sitting;
- Walking/steps;
- Toileting;
- Bathing/ showering;
- Trolley/bed moves, lateral transfers;
- Transfer off the unit.

Consider the risk factors with regard to the environment and the individuals carrying out the activity. Identify the controls required. Controls may include team handling involving two or more carers and/or manual handling equipment to reduce the degree of manual handling required. If handling with more than one person is required, good communication is essential: the leader should be agreed and words of command clarified. Risk assessments and care plans must be reviewed and revised if necessary (e.g., if the patient's condition improves/deteriorates and this affects the type of assistance required or if on review the controls are shown not to be effective).

The risk assessment and care plan should be easily accessible to any patient-care staff who require it.

Risk assessment forms and care plans for patient handling activities should be clear and well laid out. When manual handling equipment is identified as a control measure the information should be specific (e.g., state the type and size of sling required).

Templates of risk assessment forms have been published by a number of agencies: for example, *The Guide to the Handling of People a systems approach*, published by Backcare, 6th Edition, 2011; the *All Wales NHS Manual Handling Training Passport & Information Scheme*, January 2010, available from the National Back Exchange, England; and *Manual Handling Assessments in Hospitals and the Community*, An RCN Guide, 2003, available from the Royal College of Nursing, England.

Different templates will suit different situations, and organisations may wish to develop their own template to suit their particular needs.

Manual handling case studies for patient handling tasks and inanimate loads are included in Appendix V.

Dynamic task assessment

The key to preventing injury is to recognise that circumstances often vary, even when performing similar tasks, and it is often this variation which causes problems; so even when formal risk assessments have been completed the employee will still need to assess the situation before carrying out the manual handling task.

The circumstances of patient handling can change rapidly and employees need to be able to assess the risks and make decisions on the spot. Employees need to take account of the training they have received and the information provided relating to the task.

Community setting

While this guide does not specifically address issues relating to manual handling in the community it must be borne in mind that there are issues specific to care workers in the community which need to be addressed by management policies and procedures and through risk assessment.

In the community the carer may be working in the patient's home where the circumstances may present manual handling problems (e.g., the ergonomics of the work environment or lack of assistance). In these circumstances a risk assessment must be carried out to determine what changes can be made in order to produce a safe working environment, and a patient handling plan should be developed as required. Good communication with the patient where possible (and the family as appropriate) will be necessary so that improvements can be made while respecting both the wishes and needs of the client and the safety of the carer.

Ambulance personnel working in emergency situations in the community need to be able to assess risks and make on the spot decisions. This will be facilitated by suitable training and by developing safe systems of work for patient handling tasks.

APPENDIX I

Summary of Recommendations from Analysis of Causes and Costs of Manual Handling Incidents in the Healthcare Sector, September 2007

The HSA commissioned an analysis of the causes and costs of manual handling incidents in the healthcare sector. A summary of the recommendations in this report are given below.

The full report can be viewed at www.hsa.ie

Recommendations

1. There is a need for a multifaceted approach to prevention and management of manual handling incidents, with all stakeholders aware of the benefits of this approach.
 - 1.1 Non-care staff should be specifically targeted in any strategy to prevent manual handling incidents.
 - 1.2 Equipment should be used for handling heavy and awkward loads. The equipment should be suitable for the task and the environment and training in the use of the equipment should be provided.
 - 1.3 Falls prevention programmes and a policy for managing the falling patient should be developed and implemented in healthcare settings, particularly in 'care of the elderly' units.
 - 1.4 Manual handling training programmes should not be delivered in isolation, but should be part of a multifaceted prevention strategy.
 - 1.5 Manual handling training programmes should be specific to the actual work tasks of healthcare workers and should be based on the documented manual handling risk assessments that have been carried out at management level.
 - 1.6 Problem-solving and risk assessment skills, as well as practical handling skills, should be developed during manual handling training sessions.
 - 1.7 There is a need for on-going supervision and additional onsite training to ensure that skills taught in training are translated into the actual workplace.
2. Accurate and comprehensive documentation should be completed when a manual handling incident occurs, and a timely investigation carried out that reflects the severity of the incident.
3. Lessons should be learned from the investigation and control measures put in place to prevent the incident occurring again.
4. Improved management of the injured worker is recommended, with timely access to appropriate healthcare and efforts made to keep the worker at work if possible.
5. Communication should be maintained with any worker who is absent from work as a result of a manual handling incident to facilitate an early return to work.
6. Workplace supervisors/managers and other relevant stakeholders should be involved in the return to work process.
7. This report has many recommendations for further research including:
 - Investigation of the levels of risk assessment, with particular emphasis on multidisciplinary risk assessment in the Irish healthcare sector;
 - Assessment of the impact and effectiveness of multifaceted prevention strategies;
 - Investigation of the management of the injured worker in a variety of healthcare settings;
 - Development of a standardised policy for the falling patient from a manual handling perspective.

APPENDIX II

Risk Factors for the Manual Handling of Loads

Schedule 3 of the Safety Health and Welfare at Work (General Application) Regulations 2007

1. Characteristics of the load

The manual handling of a load may present a risk particularly of back injury if it is:

Too heavy or too large,

Unwieldy or difficult to grasp,

Unstable or has contents likely to shift,

Positioned in a manner requiring it to be held or manipulated at a distance from the trunk or with a bending or twisting of the trunk, or

Likely, because of its contours or consistency (or both), to result in injury to employees, particularly in the event of a collision.

2. Physical effort required

A physical effort may present a risk particularly of back injury if it is:

Too strenuous,

Only achieved by a twisting movement of the trunk,

Likely to result in a sudden movement of the load, or

Made with the body in an unstable posture.

3. Characteristics of the working environment

The characteristics of the working environment may increase a risk particularly of back injury if:

There is not enough room, in particular vertically, to carry out the activity,

The floor is uneven, thus presenting tripping hazards, or is slippery in relation to the employee's footwear,

The place of work or the working environment prevents the handling of loads at a safe height or with good posture by the employee,

There are variations in the level of the floor or the working surface, requiring the load to be manipulated on different levels,

The floor or footrest is unstable;

The temperature, humidity or ventilation is unsuitable.

4. Requirements of the activity

The activity may present a risk particularly of back injury if it entails one or more of the following requirements:

Over-frequent or over prolonged physical effort involving in particular the spine,

An insufficient bodily rest or recovery period,

Excessive lifting, lowering or carrying distances, or

A rate of work imposed by a process which cannot be altered by the employee.

5. Individual risk factors

The employee may be at risk if he or she:

Is physically unsuited to carry out the task in question,

Is wearing unsuitable clothing, footwear or other personal effects, or

Does not have adequate or appropriate knowledge or training.

APPENDIX III

Department Checklist

Risk assessment

- Have manual handling tasks which present a risk of injury to staff been identified?
- Are risk assessments being carried out in keeping with the organisation's manual handling policy and procedures?
- Are there procedures in place for the emergency evacuation of the department and have the manual handling needs of patients been taken into account?

Training, information, supervision

- Have employees received induction training?
- Have employees been given up-to-date training and information in safe manual handling techniques, including the safe use of manual handling aids?
- Are there records kept of training and information provided?
- Is adherence to safe working procedures supervised and corrective action taken as appropriate?
- Are there procedures in place to ensure that there is good communication on patient handling activities?

Employees' ability/experience

- In addition to the training and information mentioned above, do the employees require any specialised training or experience, taking account of the category of patient or type of work carried out in the department?
- Are there procedures in place to ensure the safety of employees who may have health issues which affect their ability to undertake manual handling tasks?

Consultation and participation

- Are employees consulted on and encouraged to participate in health and safety matters? (E.g., have employees been consulted on manual handling risks?)

Incident reporting and investigation

- Is there a system in place for the reporting, recording and investigation of work related accidents and incidents?

Resources

- Have the resources required to ensure safe manual handling in the department been identified based on risk assessment?

Equipment

- Is the manual handling equipment available suitable for the needs of the department and maintained in proper working order?
- Are there maintenance records available?
- Is there a system in place to ensure that unsafe equipment is taken out of use and clearly marked as unsafe?

Environment

- Is the physical environment conducive to safe manual handling activities?
- Can the manual handling equipment provided be used safely in the work environment?
- Are floor surfaces in good condition and are changes in floor level clearly marked?
- Is the lighting adequate and the temperature comfortable?

Performance monitoring and review

- Have key performance indicators been identified and progress reviewed?
- Key performance indicators may include:
 - o The number of reported manual handling related accidents and incidents;
 - o The number of additional controls identified following risk assessment and the percentage of these that have been put in place;
 - o Percentage of all staff requiring training whose training is up to date.
- Have matters which cannot be dealt with locally been brought to the attention of more senior management in line with local procedures?

This is not an exhaustive list.

APPENDIX IV

Manual Handling Risk Assessment Worksheet

Step 1: How is the task carried out?



Step 2: What are the technical details of the task?



Step 3: What are the problems/risks? (Refer to Schedule 3 in S.I. 299 of 2007.)



Step 4: What improvements can be made (actions that can be taken to avoid/reduce handling)?



Step 5: Are the improvements effective?



Example of a Completed Risk Assessment for Inanimate Load

Stage 1: Task description

1. Porters load bins of waste onto the tail lift of a truck at the hospital entrance.
2. Porters unload the bins from the truck via the tail lift within the waste compound and (i) move them to their assigned holding container or (ii) empty their content into a compactor in the waste compound.
3. The content of the bin is automatically tipped into the compactor.
4. Porters wash out the emptied bins using a power hose.

Stage 2: Collect all technical details

- The tail lifts on the truck are sloped when lowered to ground level to receive/remove the bins and a slope gradient also exists at the entrances to the holding containers in the waste compound;
- The bins are inclined to move on the yard surface if the brakes are not applied;
- The bins are fitted with four swivel castors. The two castors on the opposite end to the push handle are fitted with brakes;
- The bins are 940mm wide x 1,240mm long;
- Two porters are assigned full-time to the task. One travels on the truck with a driver to collect the bins while the other remains behind in the compound to deal with the bins that have been unloaded;
- Sustained pushing forces are applied by the porter when moving the bins onto the truck via its ramped tail lift and when moving the bins off the truck via the ramped tail lift;
- Typically in the region of 60 bins are moved to the waste compound daily;
- Typically in the region of 40 bins are hosed out daily;
- The truck can hold nine bins so the porters complete approximately seven runs with the truck between the hospital and waste compound daily.

Stage 3: Identify the risk factors

- The porters are exposed to moving and handling the loaded bins and hosing out the empty bins for the duration of their shift and the porters work alone rather than in pairs when moving waste;
- The capacity of the bin is large allowing it to be loaded to a degree that may exceed safe limits for manual pushing and pulling;
- Sloped gradients: the bin may also be too heavy for manual pushing and pulling over ramped tail lifts and the sloped entrances to the holding containers;
- It is difficult to access the bin's front braking castors to secure the load before it is raised on the tail lift to meet the truck floor or lowered on the tail lift to reach ground level;
- The four swivelling castors increase the effort required when moving the bins over distance;
- The dimensions of the bin force the porter to overreach when tipping it on to its side for hosing.

Stage 4: Identify the improvements to be put in place**Short Term:**

- Provide job-specific manual handling training for the porters who move and handle the bins to minimise their risk of exposure to the manual handling and safety risks identified above;
- Instruct the porters to work in pairs, both when loading and unloading the waste bins, to reduce the exposure of each to forceful exertion;
- Provide a grabber/'up ender' tool to provide leverage and reduce the amount of reaching and effort required to tip the bin over for hosing out. The two front brakes would need to be applied to the bin when operating this tool to tip it over.

Long Term:

- Reduce the size/holding capacity of the individual bins if the expectation is that the porters will continue to work alone when collecting them;
- Review the design of the bins – in particular the braking mechanism, handle design and swivel configuration – to reduce the effort required of the porter when moving the bins over distance or in a tight space;
- Ensure that the surface finish in the permanent waste compound is both smooth and level;
- Ensure that the permanent waste compound is a covered and level access facility with bins separated to different areas by type;
- Provide an automatic bin washing facility in the new compound.

Stage 5: Review effectiveness of the solutions

- Ensure an action plan is put in place to guarantee that the improvements recommended are acted upon in a timely manner;
- Ensure that staff have been made aware of the findings of the risk assessment;
- Carry out a follow up inspection of the system of work to ensure improvements have been put in place.

APPENDIX V

Manual Handling Case Studies

These case scenarios are intended as an aid to healthcare practitioners when carrying out manual handling task assessments. The scenarios and controls selected outline one example of a particular handling task but cannot take into account all the possible circumstances in a workplace. Assessors should select the control that best addresses the need in their particular circumstances.

When carrying out a patient handling risk assessment additional factors relating to the patient such as medical needs, personal needs and cultural needs should also be taken into account. The handling procedure selected should be explained to the patient/client and where possible the patient's consent should be sought.

A personal/dynamic risk assessment should also be carried out by the employee prior to undertaking any manual handling procedure.

Each scenario presents:

- The manual handling task;
- The issues that arise for the handlers;
- An example of controls which can be used to minimise the risk to the handlers and allow the task to be successfully completed.

With all the scenarios it is important to evaluate the controls selected to ensure they have effectively reduced the risk.

Video clips of these manual handling case studies can be viewed at www.hsa.ie

Case study 1: Patient handling case study: patient falls in a toilet area

Patient handling task

A patient has fallen to the floor in a confined bathroom. Two carers attempt to lift the patient into standing and sit into a wheelchair (Fig. 1).

Issues

Lifting a heavy weight from floor level;

Carers are lifting with combined bent and twisted position;

Carers are handling the patient at a distance from their waist;

Patient has potential to be unpredictable.



Figure 1

Possible control following risk assessment

Assess patient's medical condition: if patient has arrested provide the appropriate clinical assistance. If the patient has obvious hip or pelvic fracture, consider need for stretcher hoist or inflatable lifting aid. If none of the above applies and the patient is unable to get off the floor unaided, use sliding sheets to slide the patient to open space and use hoist to lift the patient from the floor into a wheelchair (Fig. 2).

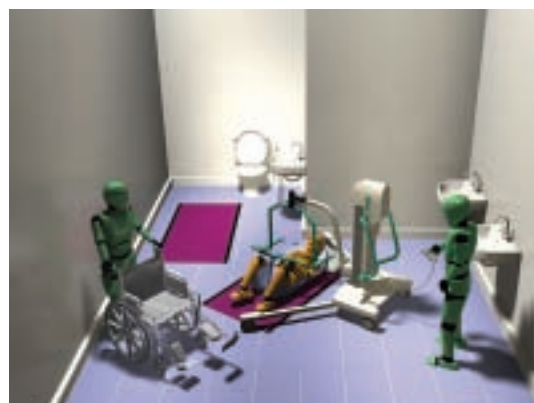


Figure 2

Alternative controls

Inflatable lifting aid: a deflated cushion is placed under a patient and attached to a motor which then inflates the cushion to waist height. The patient can then be transferred to bed or wheelchair using a lateral transfer device.

Case study 2: Manual handling chemical waste drum from laboratory to outdoor chemical store

Manual handling task

A medical laboratory assistant (MLA) transports a 50kg drum on a trolley from the laboratory to an outside chemical store. The chemical store is a steel cupboard with shelves and a drip tray to isolate any spillage. The drums are stored on the first shelf above the drip tray or the second shelf if the first is full. The height of the trolley is dictated by the storage area for the trolley, which is under a workbench in the labs. The MLA is required to lift the drum onto the first or second shelf.

Issues

- The load is heavy to lift at 50kgs;
- The height of the drum trolley is lower than the first shelf in the cupboard;
- The physical effort required is too strenuous;
- Task requires MLA to lift in combined bent and twisted position, and to lift to shoulder height to access the second shelf;
- The drum is unwieldy and difficult to grasp and contains hazardous substances.

Possible controls

MLA uses hoist with platform and strap to secure drum. The MLA places the hoist in a position perpendicular to the shelf, then raises the hoist platform to the same level as the shelf and, using weight transference, slides the drum onto the shelf (Fig. 3). This control measure may be a useful solution to transfer to other areas in the organisation where there are potentially strenuous handling tasks in labs which involve lifting and decanting chemicals from different heights.

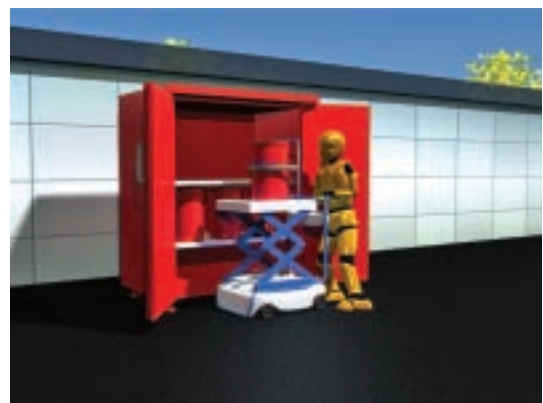


Figure 3

Alternative possible controls

- Reduce the drum weight to 25kg;
- Change trolley height to same as first shelf in chemical store cupboard; use only first shelf to store drums;
- Use scissors trolley.

Case study 3: Patient handling case study: changing mattress on bed

Manual handling task

Patient is on bed-rest following cardiac arrest; patient's mattress needs to be changed to minimise risk of pressure sores. Four carers lift the patient up off the bed and a fifth carer removes the mattress and replaces it with a new one while the carers support the patient (Fig. 4).



Figure 4

Issues

Carers are taking the full weight of the patient at a distance from their waist.

Carers are holding the patient for extended period at a distance from their waist.

Possible controls

With Four Carers

Use a hoist and soft stretcher sling to lift the patient a short distance up off the bed.

Two carers remove mattress and replace it with new mattress.

Carers lower patient onto new mattress (Fig. 5).



Figure 5

Alternative possible control

Transfer patient onto new bed with appropriate mattress using a lateral transfer board.

Case study 4: Patient handling case study: transferring patient from bed to chair with long leg plaster to bring patient to X-Ray department

Manual handling task

A patient is in a long leg plaster and is not allowed to put any weight on the affected leg. A carer assists the patient to sit over the side of the bed and hop on crutches to sit into the chair (Fig. 6).

Issues

Patient is mobilising on a very narrow base and has a high risk of unbalancing and/or falling. There is also a significant risk of sudden unexpected movements.

Possible control

Carer places wheelchair beside the bed with arm rest removed and places a lateral transfer board under patient. Carer ensures brakes on wheelchair and bed are on, and chair and bed are at optimal height. Patient then slides himself into the chair on the transfer board. Carer supports affected leg if necessary (Fig. 7).

Possible alternative controls

Push patient in bed to X-Ray department.



Figure 6



Figure 7

Notes

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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