

Unit 6

# Moving and Handling Theory

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### INTRODUCTION

All handling of objects, people and animals carries a risk of injury for the handler and others.

More than a quarter of the accidents reported to the enforcing agencies are associated with manual handling – the transporting or supporting of loads by hand or by bodily force. Lifting implies that you are taking most or all of the full weight of the object. This results in severe stress on the soft tissues of the spine, ligaments and discs, so it can lead to injury.

Injury can result in staff being absent from work. Recurrent problems will affect the individual's ability to continue working, their social and home life. Severe injury may lead to the individual not being able to continue in their chosen profession and leave.

Research (HSE, RoSPA) has shown that the repeated use of incorrect lifting techniques to move loads, and working in stressful postures increases the likelihood of injury to the spine.

In light of this research and evidence gathered from injury statistics, legislation is now in place, outlining measures and responsibilities for both employer and employee to be taken to manage the problems associated with manual handling.

#### Legislation

**There are 5 main pieces of legislation relating to Lifting and Handling**

- Health and Safety at Work Act 1974.
- Manual Handling Operations Regulations 1992 (as amended).
- Management of Health and Safety at Work Regulations 1999.
- Workplace (Health, Safety and Welfare) Regulations 1992.
- **LOLER** (Lifting operations and Lifting Equipment Regulations 1998): -

These set out both Employer and Employee responsibilities.

#### Employer Responsibilities

Under the **Health and Safety at Work Act**, employers are responsible for the health, welfare and safety of their employees, and must provide instruction, supervision and training for them.

Under the **Manual Handling Operations Regulations**, emphasis is placed on the avoidance of hazardous manual handling operations, and the provision of a safe system of work.

Under the **Management of Health and Safety at Work Regulations**, emphasis is placed on Risk Assessments and the provision of equipment appropriate for the task.

Under the **Workplace Regulations**, emphasis is placed on maintenance of the workplace, equipment and to ensure all are in good state of repair.

## Employee Responsibilities

Under the **Health and Safety at Work Act**, the employee is responsible for his/her own health, safety and welfare and should co-operate with the employer to carry out his/her duties.

Under the **Manual Handling Operations Regulations**, the employee is required to make use of any safe system of work provided by the employer.

Under the **Management of Health and Safety at Work Regulations**, the employee is required to use any equipment/ machinery/ aids in accordance with the training and instructions of the employer.

Employees are required to alert management to new risks in the workplace.

### Please see Trust policy

This document has been produced to set out guidelines concerning the safe movement of loads – objects or people

You are required to:

- Work within the framework set out by the above document.
- **AVOID** hazardous manual handling operations as far as is reasonably practicable.
- **ASSESS** your course of action.
- **REDUCE** your risk of injury, by acting on the information you have obtained.

All staff are to be made aware of this information and it is to be documented, read, acted upon and changed as necessary.

## Definitions

**Load** - is a discrete moveable object (thing, person or animal)

**Lifting** – the transporting and/or supporting of a load by hand or bodily force

## THEORY

### Anatomy

The spine is one of the main components of the skeleton. It is made up of 33 vertebrae – 7 cervical, 12 thoracic, 5 lumbar, the rest forming the sacrum and coccyx.

Its functions are to provide central support for the body, attachments for muscles and ligaments, allow movement and provide protection for the spinal cord.

Between the vertebrae are the discs, these act as spacers between the bones of the spine, as shock absorbers in the spine, aid smooth movement, and try to maintain the weight bearing pressures through the spine as evenly as possible.

The most vulnerable areas of the spine are the lumbar (lower back), and the cervical (neck) regions. They are the most mobile, and susceptible to injury. The lower back is also the main weight bearing part of the spine. The spine is supported by muscles and ligaments. The trunk muscles are postural muscles and are not as strong as the muscles found in the arms and legs.

There are many causes of pain and discomfort, but can be broadly divided into 2 groups – problems with the bony structures of the spine, and problems with the soft tissues the muscles, ligaments and the discs.

Apart from some specific medical conditions, the majority of musculo-skeletal problems come about as a result of mechanical loading of the spine – the 2 most common culprits are lifting of loads and poor working postures.

### **Posture**

Correct posture is essential for everyone, it brings with it many advantages, particularly to the spine because it:

- There are 33 vertebrae in the human spine
- Re-aligns the spine, keeps the weight bearing stresses through the bodies of the vertebrae and the intervertebral discs as even as possible.
- Causes less weight bearing stresses on the soft tissues of the spine, the muscles and ligaments, which are not designed to be over-stretched.
- Maintains a good head position, particularly important if the person works in a sitting position, as there is less stress on the neck and upper limbs.

Good posture encourages a healthy spine, and goes some way to reducing the risk of injury to the spine.

Poor posture, standing or sitting in a slumped position, results in:

- Mechanical damage to the soft tissues of the spine – the discs, muscles and ligaments.
- Increasing fatigue in these soft tissues.
- Herniation of the discs – a “slipped disc”.
- Increasing neck and low back pain.

In recent years research has shown that there is a link between poor working postures and cumulative back problems.

Good posture can be attained by:

- Making the effort to sit and stand correctly.
- Regularly changing position – standing, walking and stretching the spine.
- Working at the correct height for the particular task to be carried out.
- Adjusting seating, if available, for the individual.
- Wearing appropriate footwear.

### **Lifting**

As the majority of injuries related to the moving of objects affects the spine, changes to the way we lift things is essential to reduce injuries.

#### **This entails**

- Risk Assessments to be carried out, to identify problems and promote safe working.
- Assessing each situation as it arises.
- Using appropriate equipment that is available to help you.
- Altering how you manually lift anything – instead of the smaller, weaker muscles in the back, use the longer and stronger muscles in the legs and arms.

At all times, good posture and handling techniques will help to protect the spine from musculo-skeletal injury.

## Moving Loads

A load is a discrete moveable object – a thing (inanimate), a person (animate), or an animal (animate).

- It takes too long.
- It is perceived as being more difficult, to bend the knees rather than bend the back.
- We have become lazy and have developed bad lifting habits.
- We do not perceive the risks in lifting lighter and smaller objects compared to larger, heavier objects i.e. boxes of files compared to tables and furniture.

As many, if not more, back problems result from cumulative stress, so repeated lifting of lighter, smaller objects incorrectly is as bad for you as moving a single heavier or larger object.

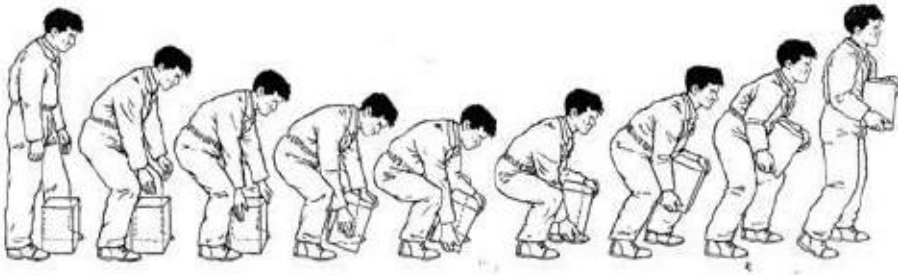
## Principles of Safer Handling

- Wear appropriate clothing and footwear.
- Never manually handle, unless you have no other option. Always ask – “do I need to lift this?”
- Assess the object to be moved prior to commencing a manoeuvre.
- Always select the appropriate manoeuvre and equipment for the task in hand.
- Make the load smaller/lighter if possible.
- Identify a team leader, to give instructions and explanations to everyone.
- If it is a person to be moved, explain the procedure to them.
- Prepare the area, clear away objects and try to create space.
- Apply the brakes on any equipment if necessary.
- Make a stable base with your legs and feet, feet apart for balance, knees bent so you can make use of the power in your leg muscles.
- Keep the object or person as close to you as possible.
- Make sure of a good hand grip.
- Avoid static stooping i.e. legs straight, spine bent forwards, arms stretched, as much as possible.
- Know your own limit or capacity, if you cannot move something, ask for help.
- Give clear, precise instructions.
- Raise the head on movement, this keeps the spine in good alignment and gives you good visibility.
- Do not twist your spine, this generates increased weight bearing forces within the discs and soft tissues of your lower spine.

All of these principles reinforce the need to assess the situation, keep your balance and make use of the power in the stronger leg muscles rather than the weaker back muscles. Good posture is encouraged, as this also reduces the strain on the soft tissues in the back.

## ASSESSMENT

Assessment prior to moving any object has four components:



- **Task** – what are you trying to do, is there any other way of making the task (job) simpler, is there any equipment to help you?
- **Individual Capability** – can you do the task? Do not exceed your own capabilities, do you know how to use the appropriate equipment, if not - ask.
- **Load** – what are you trying to move, is there any other way of lightening the load, can you divide it into smaller parts. If it is a patient, can they help you?
- **Environment** – where are you and where do you want to be. Can you create space around you, is the area clear of obstacles, can you see where you are going?

It is important to **plan** what you are going to do, communicate this to others if they are going to help you, use equipment to help you, and act on this information.

### Moving People

#### Patient Assessment – Why have a Safer Patient Handling Procedure?

To eliminate hazardous manual handling operations in all but exceptional or life threatening circumstances.

Nursing and other care related professions, are high risk professions for developing musculo-skeletal disorders – particularly back problems, by persisting in manually moving patients.

It is acceptable to give a patient some support, but not to take most or all of their weight.

**The Manual Handling Operations Regulations** establish a hierarchy of measures:

- Avoid hazardous manual handling operations so far as is reasonably practicable.
- For those operations that cannot be avoided, the situation must be assessed.
- Reduce the risk of injury from those operations as far as is reasonably practicable.

When dealing with patients:

- Avoid lifting/manually moving them, encourage them to do what they can for themselves.
- Assess what they can and cannot do for themselves, and then use the most appropriate technique or piece of equipment to move them.
- The number of staff needed to move the patient safely can vary so clinical staff should also work closely with carers/relatives or outside agencies to reduce the risk of injury to both staff and patient.

It is essential to assess the patient's level of mobility.

All patients must be assessed for their moving and handling needs, as with all other protocols – documented, changed as necessary and acted upon.  
The patients and their carers/relatives must be made aware of the Trust Safer Handling Policy and why we use safer handling techniques.

What needs to be documented:

- What the patient can or cannot do for themselves.
- What equipment and numbers of staff are required to move them.
- If the patient uses any mobility aids – sticks, walking frame.
- If the patient's condition changes, they need to be re-assessed.

**All staff must know and act on this information**

### **Acceptable and Unacceptable Techniques**

**Staff must only use acceptable Moving and Handling Techniques approved by the Trust, these are described below.**

#### **After assessing the patient**

- Are they being nursed on the most suitable bed and mattress.

**Then, each time you attend the patient to move them:**

- Encourage them to do what they can for themselves, and give them time to do so.

Within the hospital all adult patients are nursed on electric profiling beds, these are designed to be of help to the staff, as well as to provide more comfort for the patient.

To perform the following moves:-

- **Rolling side to side** – the minimum of two people are required (more depending on the size and condition of the patient) to roll the patient, if they require to be positioned on either side or moved across the bed use sliding sheets, to reduce the effort required by the staff.
- **Lying to sitting** – use the bed to raise the patient into sitting. Ensure the patients hips are positioned over the “break” in the bed, if the patient has slid further down the bed, lower the back rest, slide the patient up the bed to place their hips in the right position, then use the bed to sit them up. This also applies to trolleys.  
**DO NOT DRAG THE PATIENT UP THE BED BY PULLING ON THEIR ARMS.**
- **Move up the bed** – slide recumbent patients up the bed using sliding sheets, and the minimum of two people (more may be required depending on assessment). Another alternative, if there are insufficient numbers of staff, is to use the hoist.
- **Lying to sitting over the edge of the bed** – if the patient is lying flat, roll them onto their side, then ease them up into sitting. If semi-recumbent or sat up in bed, use the bed to sit them as upright as possible. Have the members of staff positioned one behind the patient to support the patient's trunk, and the other in front to support the patient's legs.
- **Sitting to standing** – the patient must be able to bear their own weight, if not use the HOIST. Staff are to position themselves on either side of the patient, one arm supporting the patient's trunk, the other supporting the patient's upper arm, block the feet if necessary and “rock” the patient onto their feet.  
**DO NOT DRAG THE PATIENT UPRIGHT BY PULLING ON THEIR ARMS.**

- **Transfer to a chair** – once on their feet, allow the patient time to stand as upright as possible, get their balance, before asking them to step round to sit down in a controlled fashion, Turning them quickly, results in the patient losing their balance and not being able to help you.  
If you cannot get the patient onto their feet with two members of staff, either from the bed or from the chair back to bed, asking for more staff is not the most appropriate thing to do. To be surrounded by staff and manhandled into a bed or a chair, is not **SAFE, DIGNIFIED OR NOT OFFERING THE BEST QUALITY OF CARE TO THE PATIENT, NEITHER IS IT SAFE FOR THE STAFF**. If you cannot get the patient onto their feet use the appropriate hoist.
- **Support whilst walking** – you are there to provide support and guidance, not hold the patient upright. If they use a walking aid use this, and you stand to the side. They can see you, but you are not in the way.
- **Emergencies/life-threatening situations-** if out of bed (including sitting on a chair, commode or wheelchair) lower the patient to the floor. Try to protect their head, but imperatively you do not put yourself at risk. Once on the floor deal with resuscitation there.
- **Fallen/falling patient** – contact emergency services while keeping the patient as comfortable as possible until help arrives

### Unacceptable Techniques

Refer to the **Guide to the Handling of People 5th edition**

**These moves were identified in 1980 as being dangerous to staff and patient, they were condemned by the RCN in 1984 as a means of moving patients, and MUST NOT be employed.**

- **Lying to sitting** – by pulling the patients arms, it is painful and damaging to the patient and can cause harm to the staff's neck, shoulder and back muscles.
- **Move up the bed** – by pulling the patient's arms, it causes damage to the shoulders and can lead to the development of pressure areas. It also strains the staff's neck, shoulder and back muscles.
- **Sitting to standing** – by pulling the patient's arms, this will cause the same problems as above. The patient is in danger of falling as the staff do not have full control of the situation.
- **Manually lifting a patient out of a bed or chair** – the staff are carrying the whole weight of the patient, and may drop the patient.
- **Manually lifting a patient off the floor** – unless in exceptional circumstances, because of the potential harm to patient and staff alike.

**Always assess the situation first, then use the most appropriate and safe technique to move the patient. Use equipment to help you – it may take more time, but both you and the patient will be safe.**



# Unit 6 assessment:

## Moving & Handling

**1. Is a person considered to be a 'load' in legal terms?**

- (a) Yes (b) No

**2. Roughly what percentage of accidents reported to enforcing agencies are associated with manual handling?**

- (a) Less than 25%  
(b) More than 25%  
(c) 50%  
(d) 70%

**3. Apart from medical conditions, what causes most musculo-skeletal problems in the workplace?**

- (a) Lifting of loads  
(b) Poor working postures  
(c) Both of these

**4. How many vertebrae are there in the human spine?**

- (a) 29 (b) 33 (c) 37

**5. Are leg muscles more powerful than trunk muscles?**

- (a) Yes (b) No

**6. Which of the four main pieces of legislation places emphasis on the employer to conduct risk assessments and provide equipment appropriate for tasks?**

- (a) Health & Safety at Work Act 1974  
(b) Manual Handling Operations Regulations 1992  
(c) Management of Health & Safety at Work Regulations 1999  
(d) Workplace (Health, Safety and Welfare) Regulations 1992

**7. Which of the four main pieces of legislation says employees are responsible for their own health, safety and welfare and should co-operate with their employer to carry out duties?**

- (a) Health & Safety at Work Act 1974  
(b) Manual Handling Operations Regulations 1992  
(c) Management of Health & Safety at Work Regulations 1999  
(d) Workplace (Health, Safety and Welfare) Regulations 1992

**8. What are the four components of any assessment of manual handling risk?**

- (a) Task, load, location, individual fitness  
(b) Task, load, location, individual capability  
(c) Task, load, environment, individual capability

**9. You're a nurse who needs to move a bed patient from side to side. Can you do this on your own, or should you ask for help?**

- (a) You can do it on your own
- (b) There must be at least two people
- (c) Can vary with patients own capabilities

**10. What is probably the best way of moving a recumbent patient up the bed?**

- (a) Use sliding sheets with two people
- (b) Use sliding sheets with a minimum of four people
- (c) Manual handling with two people
- (d) Manual handling with a minimum of four people

# Unit 6: Moving & Handling Completion Statement

PLEASE only sign and return when you are satisfied that your staff member has completed all of the relevant mandatory units and correctly answered questions.

A PHOTOCOPY of this completion statement ONLY, MUST be sent to Learning and Development. This is for input on to the Trusts Central Training Data Base (OLM) as evidence that your staff member has completed the Mandatory Training Assessment Pack.

A further copy should be placed in your staff members personal development file.

This is to confirm the Mandatory Training Assessment has been completed by:

Surname: (Block Capitals)

.....

Forename: (Block Capitals)

.....

Job Title: .....

Department/Ward:.....

Division/Directorate:.....

Date Completed: (This must be within 12 weeks of receipt) .....

Staff Signature: .....

Manager: (Printname) .....

Manager:( Signature) .....

**Return a copy to Learning and Development, Blackpool Teaching Hospitals,  
Learning and Development Department, 42 Whinney Heys Road, Blackpool, FY3 8NR**

An electronic copy can be emailed to: [olm@bfwhospitals.nhs.uk](mailto:olm@bfwhospitals.nhs.uk)

Date Sent: .....