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**MANUAL & PATIENT HANDLING**



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**Manual Handling**

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**Aims and Objectives**  
Provide sufficient understanding and knowledge of Manual & Patient Handling, the risks involved and the control measures available.



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**Manual Handling**

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**HOW ?**

- ◆ Theory
- ◆ Discussions
- ◆ Practicals



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### Manual Handling

#### What is Manual Handling ?

- ◆ Any transporting or supporting of **any** load by hand or bodily force

This includes:

- ◆ Lifting, putting down, pushing, pulling, carrying or moving
- ◆ This human effort can be applied indirectly

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### Patient Handling

- A manual handling operation where the “load” is a patient, or other person
- Adds an extra dimensions as the “load” is a person and can:
  - have a mind of its own
  - make sudden and possibly unpredictable movements and may become unstable
  - be exposed to a risk of injury as well as the handler

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### Manual Handling

Also includes indirect effort - can be :

- ◆ Hauling on a rope or pulling on a lever

Applying a force to manipulate a load supported on :

- ◆ Spade
- ◆ Fork
- ◆ Similar implement

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**Manual Handling**

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**Manual Handling Facts**

- ◆ Low back pain occurs with the same frequency in people with sedentary occupations as those in heavy labour.
- ◆ Musculo-skeletal disorders arising from work situations have an estimated annual cost in the region of £3 billion and account for 30 million lost work days each year.

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**Manual Handling**

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**Manual Handling Facts**

- ◆ Being overweight increases the likelihood of back pain.
- ◆ Age doesn't necessarily make any difference, bad backs affect people of all ages.
- ◆ Poor handling techniques when you are young will contribute to problems in later life.
- ◆ Those who have suffered from a back injury are three times more likely to suffer injury again.

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**Manual Handling**

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**Reasons for Manual/Patient Handling Training**

- ◆ Reduce lost working days through injury.
- ◆ The Law.
- ◆ Looking after one of the most important parts of the body.

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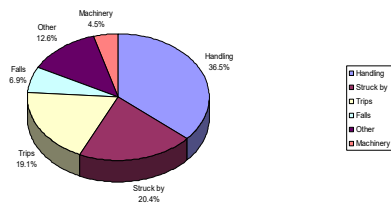
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## Manual Handling

### Kinds of Accident Causing Injury (HSE Figures 1996 – 1997)




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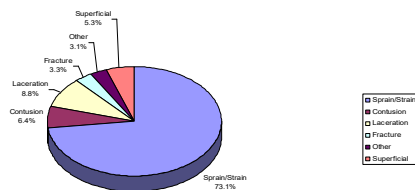
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## Manual Handling

### Types of Injuries Caused by Handling Accidents (HSE Figures 1996 – 1997)




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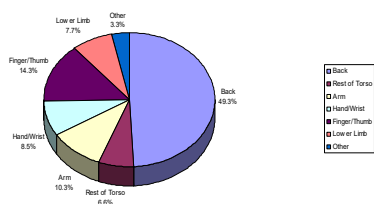
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## Manual Handling

### Sites of Injuries Caused by Poor Handling (HSE Figures 1996 – 1997)




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**Manual Handling**

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**The Law and Manual Handling**

- ◆ The Health and Safety at Work etc Act 1974 (HASAWA)
- ◆ The Management of Health and Safety at Work Regulations 1999 (MHSWR)
- ◆ The Manual Handling Operations Regulations 1992

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**Manual Handling**

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**The Law and Manual Handling**

HASAWA:

- ◆ General duty to ensure the health, safety and welfare at work of their employees. In particular, they have a duty to ensure the safe use, handling, storage and transport of articles and substances so far as is reasonably practicable.

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**Manual Handling**

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**The Law and Manual Handling**

MHSWR:

- ◆ Regulation 3(1) requires employers to risk assess work activities. This risk assessment should identify whether there is a risk of injury from manual handling operations in the workplace.

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**Manual Handling**

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**The Law and Manual Handling**

MHOR:

- ◆ These regulations are based on an ergonomic approach to preventing manual handling injuries. This involves fitting the job to the worker, taking into account anatomy, physiology and psychology.

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**Manual Handling**

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**The Law and Manual Handling**

The law in respect of Manual Handling applies equally to inanimate objects as it does to animate loads (people, animals etc.)

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**Manual Handling**

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**The Law and Manual Handling**

Whereas previous legislation set limits on the weight of loads that can be lifted, these regulations require a number of relevant factors to be taken into consideration:

This is known as **T I L E**

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**Manual Handling**

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**The Law and Manual Handling**

**T**ask  
**I**ndividual Capability  
**L**oad  
**E**nvironment

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**Manual Handling**

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**The Law and Manual Handling**

These regulations set out a hierarchy of measures employers should work through to prevent or reduce the likelihood of injury:

- ◆ Avoid manual handling
- ◆ Assess the task
- ◆ Reduce the risk
- ◆ Monitor the task
- ◆ Inform and train staff on risks

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**Manual Handling**

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**Avoid Manual Handling !**

Eliminate:

- ◆ By design- Reduce heavy structural materials, layout of workplace to minimise manual handling operations
- ◆ Automation/mechanisation:- Cranes, hoists, forklift trucks, sack trolleys etc
- ◆ Management- Delivery of heavy articles to point of use, storing heaviest materials at waist level

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**Manual Handling**

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**Main Types of Injury**

- ◆ Traumatic: Strain/Sprain, Slipped Disc
- ◆ Repetitive: Effects overtime, Arthritis



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**Manual Handling**

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**Cumulative Manual Handling Injuries**

- Back Pain
- Neck
- Shoulders
- Knees
- Feet
- Wrist/Elbows
- Hernia
- Overall Fatigue
- Many Others

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**Manual Handling**

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**Work Related Upper Limb Disorders**

Affects shoulders, arms and wrists

Main Causes:

- ◆ Excessive force
- ◆ Excessive repetition
- ◆ Lack of recovery time or rest
- ◆ Poor static posture
- ◆ Stress
- ◆ Individual susceptibility

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**Manual Handling**

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**Causes of Back Pain**

Not just caused by heavy work and heavy weights. Can be due to:

- ◆ Poor static posture
- ◆ Sitting too long in one position
- ◆ Sudden movement
- ◆ Vibration during handling
- ◆ Psychological stress

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**Manual Handling**

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**The Structure and Function of the Spine**

- ◆ Provides a flexible connection between the upper and lower half of the body
- ◆ Encloses and protects the spinal cord
- ◆ Is involved in most movements of the trunk and limbs by providing key attachment points for muscles
- ◆ Has a very significant function in weight bearing but only with correct posture
- ◆ Is very prone to injury if used incorrectly

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**Manual Handling**

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**The Human Spine**

Consists of a column of small bones each called a VERTEBRA. If numbered 1-33 (starting with 1 nearest the skull):

- ◆ 1-7 are known as "CERVICAL VERTABRAE"
- ◆ 8-19 are known as "THORACIC VERTABRAE"

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### Manual Handling

#### The Human Spine

- ◆ 20-24 are known as "LUMBAR VERTABRAE"
- ◆ 25-30 Fused Vertebrae known as "SACRUM"
- ◆ 30-33 Fused Vertebrae known as "COCCYX"

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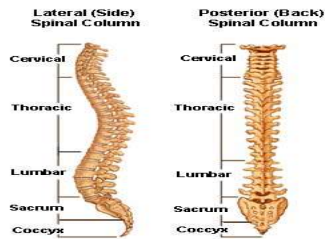
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### Manual Handling

#### The Human Spine



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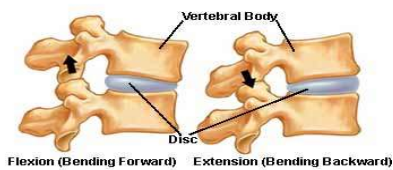


### Manual Handling

#### The Spine

Each vertebrae is separated by a gel like substance, the disc. These discs bend and stretch as we move

#### Facet Joints in Motion



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### Manual Handling

#### The Spinal Cord

The Spine protects the spinal cord. The spinal cord and the nervous system controls all systems in the body. As the cord descends from the brain nerves peel away from the cord at each vertebrae, leading to all other parts of the body. Damage to the cord will result in the blockage of signals from the brain to the area affected.

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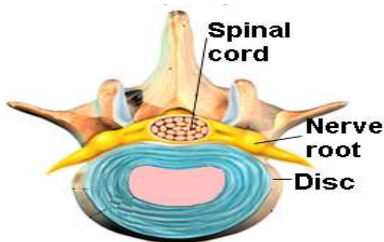
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### Manual Handling

#### The Spinal Cord



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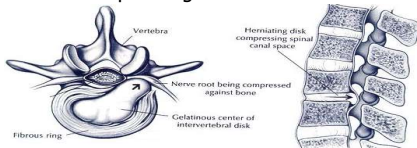
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### Manual Handling

#### Slipped Disc

- A slipped disc is also called a "herniated or prolapsed" disc
- It is a bulge in the wall of one of the discs between the vertebrae pressing onto the nerve



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**Manual Handling**

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**Slipped Disc**

- ◆ Main symptom is sciatica (pain in legs, back and buttocks)
- ◆ Other damage often occurs at the same time, such as muscles strain and tears

Treatment:

- ◆ Minimum stress to the spine
- ◆ Correct posture
- ◆ Time to heal

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**Manual Handling**

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**How to Lift**

- ◆ 1kg Weight close to the body exerts 10kg force onto muscles of the back (1:10)
- ◆ 1kg Weight held at arms length exerts 100kg force onto the muscles of the back (1:100)

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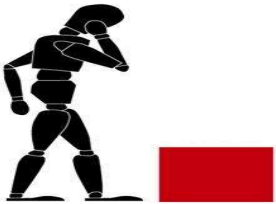
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**Manual Handling**

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**How to Lift**

1. Stop and think.



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**Manual Handling**

**How to Lift**

2. Place the feet



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**Manual Handling**

**How to Lift**

3. Get a firm grip



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**Manual Handling**

**How to Lift**

4. Don't Jerk



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**Manual Handling**

**How to Lift**

5. Move the feet, keep close to the load




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**Manual Handling**

**How to Lift**

6. Put down and then adjust




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**Manual Handling**

**Lifting and Lowering Limits**

Guidance for tasks performed less than 30 per hour in Kg's

3	7			10	5
7	13			20	10
10	16			25	15
7	13			20	10
3	7			10	5

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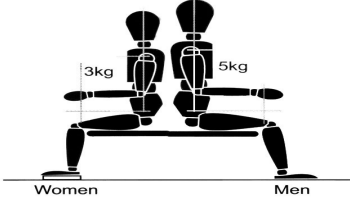
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**Manual Handling**

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**Handling While Seated**



Women                      Men

Handling while seated

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**Manual Handling**

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**Manual Handling Principles**

- ◆ Stay balanced. Spread the feet to create a stable base
- ◆ Keeping your centre of gravity close to the load's centre of gravity
- ◆ Bending from the knees
- ◆ Keeping the back straight, and head up
- ◆ Staying compact when pushing
- ◆ Moving the feet to turn, not the body
- ◆ Moving smoothly, particularly when setting loads down
- ◆ Ensure you can see where you are going

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**PATIENT HANDLING**

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## Patient Handling Basic Principles



- Wherever possible let the patient do the work or use equipment to assist in moving and handling patients
- Emphasis must be on avoiding manual handling tasks.
- Where equipment is provided workers must receive adequate training on how to use it safely
- Procedures should be in place to deal with manual handling problems and to ensure they are addressed.

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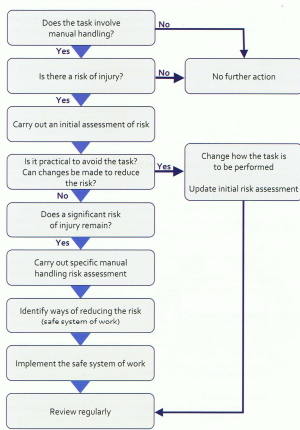
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Assessing risk – flowchart



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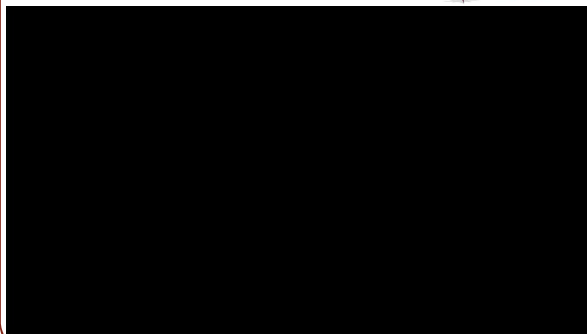
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**Patient Handling  
Risk Assessment**

- **T** – Task
- **I** – Individual
- **L** – Load
- **E** – Environment
- **E** - Equipment

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**Patient Handling  
T is for Task**

- How far do I have to move the person?
- Where am I moving them to?
- Will I be able to move safely through all parts of the lift?
- Do I have to bend, stretch or reach?

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**Patient Handling  
I is for Individual**

- Have I performed this task for this individual before?
- How am I feeling?
- Do I have any health or pain problems?
- Am I suitably dressed for the task?
- Have I been trained for this task?

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**Patient Handling**  
**L is for Load**



- Overall weight to be moved?
- Any constraints from injury or pain?
- How much can the subject assist themselves/level of independence?
- Any behavioural constraints?
- Clothing or attachments?

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**Patient Handling**  
**E is for Environment**



- Is there enough room to perform the movement safely?
- Is the floor clear?
- Is the floor slippery?
- How and where will I put the person down?
- Are there any changes in levels to negotiate?
- Can I see where I am going clearly?

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**Patient Handling**  
**E is for Equipment**



- What equipment is required?
- Is it properly maintained and free from defects?
- Have I been trained in its use?
- Are there any additional pieces that I may require close to hand?
- Is the equipment being used for its intended purpose?

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### **Patient Handling - Documentation**

- For one off handling activities use a Manual Handling Assessment
- For regular activities use Generic Manual Handling Assessments or Safe Systems of Work
- For those in a care settings (residential or hospital) manual handling operations should be covered in the Patients Care Plan
- Always continue to dynamically assess as things change during moving and handling operations

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### **TECHNIQUES AND EQUIPMENT**

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### Patient Handling Unassisted Sit to Stand



- Patient should be mobile enough to move to edge of seat, to move their feet and take full weight
- They move their bottom to front of seat
- Lean forward
- Position upper body so center of gravity is over the feet
- Push up on their arms and straighten legs
- Centre of gravity is moved forward and upward
- Patient moves into standing position

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### Patient Handling From Stand to sit on a bed/couch



- Give verbal reassurance and instructions
- Adjust height of bed or couch
- Explain what is happening and show where bed or couch is
- Guide patient to edge of bed/couch
- Get patient to feel edge of bed with back of knees
- Get patient to feel edge of bed with hands
- Guide patient back and support on their back so they slowly sit onto bed.

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### Patient Handling From sit to stand from a bed/couch



- Bed to be raised so patients legs slopping slightly forwards
- Patient to move to edge of bed
- Patients feet should be placed on the ground one slightly in front of the other
- Patient should be encouraged to push downwards on bed
- Assistants place hands on patients back
- Patient is encouraged to rock forwards three times
- on third time patient pushes upwards and assistants push forwards

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**Patient Handling**  
**Sit to Stand – Single Assistant**



- Patient moves bottom forward, hands on arms, feet moved to take the weight, one foot in front of other.
- Assistant faces direction of travel, nearest arm across patients back at waste height. Assistants other hand on front of nearest shoulder.
- Tell patient to lift head and to lean forward, at same time push on patients back to assist in standing.
- Assistant guides patient forward and upward. Transferring weight to front foot, then move their own feet to stand at side of patient.

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**Patient Handling**  
**Sit to Stand – Two Assistants**



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**Patient handling**

- Patients should move independently wherever possible
- A patient can be unpredictable or uncooperative
- Think about if the patients size would require you to stretch or use excessive force
- Handling aids should be used whenever possible

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**Patient Handling  
Assisting to Walk**



- Patient must be able to weight bear
- Stand by patient's weakest side
- Position hip slightly behind patient
- Stand close and offer a 'palm to palm' hold supporting the patients arm out in front
- Hold hand low
- Consider handling belt

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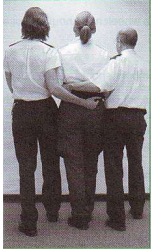
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### Patient Handling Assisting to Walk



- Two assistants walking a patient with the help of a handling belt.

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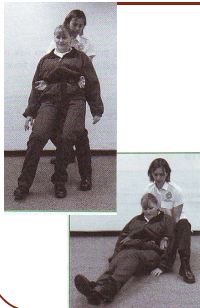
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### Patient Handling Controlling a Falling patient



- Move behind the patient if falling
- Maintain body contact
- Release hold of patients hand
- Open hands, take a step back, maintaining a wide stable base.
- Allow patient to slide to the floor, protecting their head
- If necessary, lie patient down and make comfortable

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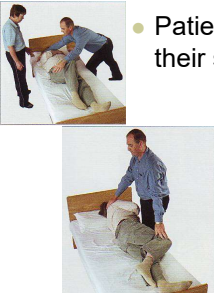
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**Patient Handling**  
**Placing on a slide sheet**



- Patient is carefully rolled onto their side



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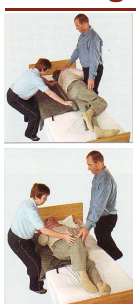
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**Patient Handling**  
**Placing on a slide sheet**



- Sheet is rolled lengthways to approx half its width and the rolled edge is tucked beneath the back of the person.
- The patient is then rolled back over the folded part of the sheet.



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**Patient Handling**  
**Placing on a slide sheet**



- The folded part is then gently pulled through, leaving the person laying centrally on the sheet.



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### Patient Handling Slide Sheet



- Slide sheets can be used in lateral transfers from one surface to another as from a bed to a stretcher.
- A transfer board is used to bridge the gap.

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### Patient Handling Slide Sheet



- Sheets are used in pairs as one sheet will slide easily over surface of the other, handles make it easier to grip
- Sheets can also be used to slide persons out of awkward situations, before use of hoist etc.

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### Patient Handling Slide Transfer Boards



- Surfaces should be at equal heights
- Boards can be large, bulky and difficult to manoeuvre
- Consider risk to handlers from twisting and rotational movement
- When using slide sheets make sure slide is controlled

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### Patient Handling Small Slide Boards



- Surfaces should be of equal heights for easy transfer.
- Patients need a good degree of sitting balance for a seated transfer.

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### Patient Handling Small Slide Board



- Chair places alongside bed. Board positioned curved edge forward.
- Supporting own weight on arms, patient slides himself across the board
- Take care not to trap fingers

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### Patient Handling Hoists



- Hoists and slings are covered by specific legislation
- The Provision and Use of Work Equipment Regulations (PUWER) 1998
- The Lifting Operations and Lifting Equipment Regulations (LOLER) 1998

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### Patient Handling Hoists – Check List



- For signs of wear, damage or lose parts
- That properly assembled and spreader bar properly fitted
- Date of last inspection
- That Wheels and brakes are in proper working order
- That Safe Working Load is not exceeded
- That emergency stop and lower systems are functioning correctly
- Handlers are trained in its use

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### Patient Handling Hoists



- Use correct size and type of sling for individual.
- Assessment to take into consideration users weight, shape and special needs
- If slings shared take precautions to minimise infection risk
- Check sling for wear or damage
- Check date of last inspection

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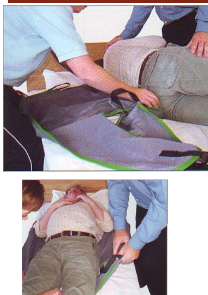
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### Patient Handling Hoists



- Sling places beneath patient using log roll
- Patient carefully rolled onto side and rolled up sling tucked tightly beneath them
- Patient is rolled back over sling and sling is pulled through

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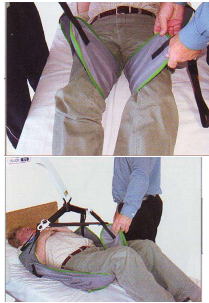
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### Patient Handling Hoists



- Leg straps are looped together to prevent slipping and tightening
- Spreader bar is positioned over patient and sling loops are securely attached

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### Patient Handling Hoists



- As the lift begins the slings are checked for fit and comfort
- Care is taken that the patient's heels clear the bed as he/she moves

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### Patient Handling Hoists



- The patient can be steadied and manouvred using the handles attached to the sling

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### Patient Handling Hoists



- As the patient is lowered into the seat the head is steadied and supported to make sure that it does not come into contact with the spreader bar.
- Once the patient is safely seated the sling can be removed

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### Patient Handling Hoists – to remove sling



- Remove by shifting the patient side to side or backward and forward and sliding the sling carefully out.
- Where a patient is moved frequently it may be appropriate to leave the sling in place

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### Patient Handling Hoists – Lifting from Floor



- If injuries permit, patient is log rolled and sling positioned so that when patient rolled back it will be centralised.

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### Patient Handling Hoists – Lifting from Floor



- Once sling in position it can be used to help the patient into a sitting position.



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### Patient Handling Hoists – Lifting from Floor



- The patient is lifted onto the bed and placed on the side of the bed furthest from where they will end up

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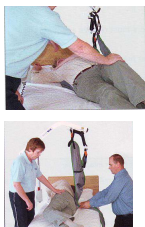
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### Patient Handling Hoists – Lifting from Floor



- The sling is disconnected on one side only, leaving the connection on the side away from where the patient will turn
- By lifting gently on the hoist the patient is turned onto his side and the slings are removed

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**Patient Handling Hoists – Lifting from Floor**



- The patient is left laying comfortably on their side

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Moving and Handling People

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**SUMMARY**

**Take Note !**

- ◆ Knowledge and training alone will not guarantee safe handling
- ◆ A risk assessment needs to be undertaken
- ◆ Avoid if possible
- ◆ Know your own limits
- ◆ Put training into action at work as well as home

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**SUMMARY**

**Remember !**

- ◆ Sitting, Standing and assisting with walking are the most common activities
- ◆ Twice as many accidents happen when undertaking these activities
- ◆ Always communicate with your patient and tell them what you are doing and what you want them to do.
- ◆ Let your patient support their own weight as much as they can

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Moving and Handling People

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**SUMMARY**

**And Finally**

- ◆ You've carefully thought out all the angles.
- ◆ You've done it a thousand times.
- ◆ It comes naturally to you.
- ◆ You know what you're doing, its what you've been trained to do your whole life.
- ◆ Nothing could possibly go wrong!!!!.

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**SUMMARY**

**Think Again !!**



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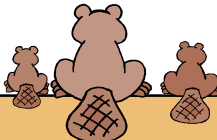
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**SUMMARY**



No beavers were actually injured during the generation of this PowerPoint presentation!

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**SUMMARY**

**Any Questions ?**

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