Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

People Handling and Inanimate Manual Handling
A handbook

PEOPLE HANDLING AND INANIMATE MANUAL HANDLING

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Introduction

If during your working life you experience lower back pain, you will not be on your own. In its most recent statistical report (Summary of Workplace Injury, Illness and Fatality Statistics: 2014 - 2015), the HSA states that in 2015 manual-handling related injuries accounted for about 33% of the non-fatal injuries reported to it (it also stated that 19% of all the non-fatal injuries reported to it in that year came from the health and social work sector). It was also reported in the Irish Independent (09 April 2018) that lower back pain accounted for 25% of doctor visits in Ireland; it was the leading cause of disability in the country; and it led to significant costs in disability allowances and insurance payments.

However, we are not helpless in the face of back problems and their outcomes. By raising our awareness of the factors affecting back health and by participating in training in the appropriate techniques of manual handling of people and inanimates we can significantly improve our chances of avoiding back injury. The HSE's policy is to promote, across all its services, a culture of safe manual handling and people handling activities which:

1. Avoids or reduces as far as is reasonably practicable, the risks associated with manual handling and people handling activities.
2. Provides the highest quality of care to service users.
3. Ensures compliance with the relevant statutory requirements and with standards and guidelines such as those published by the HSA and HIQA.

When you adopt the principles and practices laid out in this manual you will not only reduce your chances of developing back pain in your workplace but also generally in your life.

We know that back pain is most commonly caused by or involved in tasks that include movements such as:

- Stooping or bending;
- Stretching, twisting and overreaching;
- Holding one position for prolonged periods and poor sitting posture;
- Excessive lifting of heavy, bulky or awkward loads or the carrying out of such work with incorrect lifting techniques;
- Carrying, pushing or pulling loads awkwardly or over long distances;
- Repetitive activities or activities involving heavy physical work.

Back pain can also be the result of working beyond the range of our normal abilities and/or stamina, or working when we are physically or mentally tired.

In the healthcare sector, the risk of injury from manual handling often takes the high risk form of the manual handling of people and this activity introduces a number of new factors that can affect the activity of manual handling. Of particular importance amongst these is the consideration that not only can the health and welfare of the employee be adversely affected but also the person being handled is at risk of discomfort, pain or injury from incorrect manual handling techniques.

Manual Handling of People and Physical Abuse

The manual handling of people presents ethical as well as practical dilemmas. Professional codes of conduct require the prevention of abuse and these define 'physical abuse' as, for example, 'any physical contact which harms clients or is likely to cause them unnecessary and avoidable pain and distress' (*Practitioner-client relationships and the prevention of abuse*, Nursing and Midwifery Council, 2002). As examples of such abuse the NMC cites 'handling the client in a rough manner, poor application of manual handling techniques or unreasonable physical restraint' and points out that 'Physical abuse may cause psychological harm'.

Prevention is better than cure, and manual handling training in the workplace for the handling of people and of inanimates teaches us the importance of using the correct techniques to do so, as well as the need to consider relevant factors such as load weight and load stability. As young children, we all naturally lift correctly and without risk of injury, but as we grow older, we develop bad habits that can lead to injury. So, we all need to relearn these techniques in order to preserve the health of our backs by eliminating the factors in our working practices that can lead to back pain and injury.

Key Messages for Keeping Your Back Healthy

In its Tips to Keep Your Back Healthy in the Manual Handling and People Handling Theory Module, the HSE suggests the following:

1. Keep your body strong through regular exercise (e.g. walk, swim, cycle, dance, go to the gym).
2. Do regular stretching to keep your body flexible and supple.
3. Maintain good posture throughout the day.
4. Don't overload your body; get help when you need it.
5. Use equipment when you need to.
6. Work within your physical capability.
7. Deal with any aches or pains you have as soon as you can: don't let them develop if you don't have to.

Training is an essential part of managing manual handling of people or inanimates, but it must be complemented by:

- Thorough and robust risk assessments;
- Safe systems of work, accompanied by monitoring and auditing systems;
- Good management systems, including the HSE's incident management system;
- Clearly defined roles and responsibilities and clear instructions;
- The provision of suitable equipment;
- A workplace culture and working attitudes which support the training message and implement the HSE's policies on people handling and the handling of inanimates.

The implementation of all of these will ensure that whether we handle people or inanimates, the health and safety of everyone involved will be protected by our adherence to the highest practicable standards.

In the HSE, management and staff strive to make sure that the service they provide is safe, both for those receiving it and for those providing it. But sometimes things do go wrong and when they do the causes are often complex, including the vulnerability of those receiving care, the fallibility of those providing care and the dynamic and complex nature of the health care environment.

Incidents when they occur can cause harm, ranging from the need for additional medical treatment or an extended hospital stay, to more significant harm, up to and including death. Often it is those receiving care who bear the brunt of this harm, but staff can also be significantly affected and sometimes it is our staff alone who are harmed.

When an incident occurs, we have the opportunity to demonstrate the HSE's core values of Care, Compassion, Trust and Learning, all of which should be marked by openness and transparency. From the moment of the incident and throughout the management process, the response of managers, clinicians and other frontline workers must seek to demonstrate these values so as to restore and enhance the confidence and trustfulness of any person affected by the incident.

No matter who is affected by incidents, when they occur it is our duty to respond to them in a manner which seeks to support those affected. Such support must not be confined to the immediate aftermath of the incident but must extend right through to the moment when the incident is being reviewed. Speedy and comprehensive reviews allow us to understand what happened, why it happened and what needs to change in order to reduce the risk of its happening again.

PART 1

GENERAL CONSIDERATIONS

UNIT 1
Legislation

Health and Safety Legislation

There are two key pieces of legislation which govern the health and safety of manual handling of people and of inanimates in the workplace. These are the Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work Act (General Application) Regulations 2007. The 2005 Act establishes the general framework of duties and obligations imposed on employers, the self-employed and employees to ensure the maintenance of health and safety in the workplace. The 2007 Regulations apply the principles of prevention established in the 2005 Act to all aspects of work and the workplace and they include a specific section on manual handling (see below).

The Role of the Health and Safety Authority (HSA)

The HSA is the statutory body established in Ireland that has been given responsibility for overseeing the enforcement of occupational health and safety law. It reports directly to the Minister for Business, Enterprise and Innovation.

Terminology

The legislation employs a number of useful technical terms that relate to health and safety at work in general and to the manual handling of people and inanimates in particular. In the table below, you will find helpful definitions of the most important and most commonly used of these terms (these definitions are derived from the provisions of the Safety, Health and Welfare at Work Act 2005 and the various guidance documents published by the HSA on safety and health in the workplace).

TERM	DEFINITION
ACCIDENT	An accident/incident arising out of, or in the course of, employment which, in the case of a person carrying out work, results in personal injury
BEST PRACTICE	Behaviour which may go beyond what is legally required
COMPETENT PERSON	Persons deemed to possess sufficient training experience and knowledge appropriate to the nature of the work to be undertaken, having regard to the task to be performed and taking account of the size of the establishment or the hazards of the undertaking (or of both of these factors)
DANGEROUS OCCURRENCE	An occurrence arising from work activities in a workplace that causes or results in: ➔ The collapse, overturning, failure, explosion, bursting, electrical short circuit discharge or overload or malfunction of any work equipment; ➔ The collapse or partial collapse of any building or structure under construction or in use as a place of work; ➔ The uncontrolled or accidental release, the escape or the ignition of any substance; ➔ A fire involving any substance, or any unintentional ignition or explosion of explosives.
GOOD PRACTICE	Behaviour which corresponds with the standard required by the law
HAZARD	A source or situation with the potential for harm to human health and welfare, damage to property, damage to the environment or a combination of all these forms of harm
INCIDENT	An event or circumstance which could have, or which did lead to unintended and/or unnecessary harm (see HSE Incident Management Framework hse.ie/eng/about/qavd/incident-management/hse-2018-incident-management-framework-guidance-patient-staff-stories.pdf
REASONABLY PRACTICABLE	Having identified hazards in the workplace and then assessed the risks to health and safety they pose, an employer has put in place the protective and preventive measures that these hazards require, as opposed to measures that would be grossly disproportionate to the level of risk involved. By doing so employers exercise due care and fulfil their legal obligations
RISK	The degree of likelihood that a particular hazard will cause a particular undesired event, as part of a work activity or as part of the products or services created by the work activity. Risk has two elements: (i) the degree of likelihood that a hazard may cause a hazardous event (ii) the degree of harm caused by the hazardous event. It will also incorporate consideration of the number of people likely to be exposed to harm from the particular hazard and of how often and for how long such exposure may take place
RISK ASSESSMENT	This is the process of identifying hazards in the workplace and evaluating and ranking the risks to health and safety that they pose. It involves estimating the level of risk and deciding whether the risk is acceptable or whether more precautions need to be taken in order to prevent harm

The Safety, Health and Welfare at Work Act 2005

The Safety, Health and Welfare at Work Act 2005 sets out the main provisions that organisations must implement in order to secure and to improve the safety, health and welfare of people at work. These include duties imposed on both employers and employees.

Duties of employers

Section 8(1) of the 2005 Act requires employers to ensure, so far as is reasonably practicable, the safety, health and welfare at work of all of their employees. The general duties of employers set out in this section broadly reflect the common law principle of the duty of care. Section 8(2) specifies particularly important instances of this general duty, including:

- The management and conduct of work activities;
- The design, provision and maintenance of:
  - Safe workplaces;
  - Safe means of access to and egress from the workplace;
  - Safe plant and machinery.
- The provision of safe systems of work;
- The provision of adequate instruction, training and supervision, and of any necessary information;
- The preparation of risk assessments and safety statements in accordance with sections 19 and 20 of the 2005 Act, and where necessary, the implementation of safety, health and welfare measures that take account of the general principles of prevention listed in schedule 3 of the Act;
- The provision and maintenance of suitable personal protective equipment when risks cannot be eliminated or when such equipment is prescribed;
- The reporting of accidents and dangerous occurrences to the HSA when that is required by the 2007 Regulations;
- When necessary, the obtaining of the services of a competent person to assist in ensuring the safety, health and welfare of employees.

Duties of employees

Section 13 of the 2005 Act imposes a range of duties on employees. By doing so, this section is intended to protect employees, their fellow employees and any other person affected by the employees' actions from any harmful consequences of those actions. Under section 13, an employee must:

- Comply with relevant laws and protect their own safety and health as well as the safety and health of anyone who may be affected by their acts or omissions at work;
- Ensure that they are not under the influence of any intoxicant to the extent that they could be a danger to themselves or others while at work;
- Cooperate with their employer with regard to safety, health and welfare at work;
- Avoid engaging in any improper conduct that could endanger their safety or health or that of anyone else;
- Participate in safety and health training offered to them by their employer;

- Make proper use of all machinery, tools, substances, etc and of all personal protective equipment provided for use at work;
- Report any defects in the place of work, equipment etc that might endanger safety and/or health.

You must also report to your employer/supervisor any instance in which you have been asked or instructed to lift a load that is beyond your lifting ability (in order to make an informed judgement on this, it is important for you to be familiar with the musculoskeletal system, the injuries to which it is prone and the ways in which manual handling of people or inanimates may cause such injuries).

The Safety Health and Welfare at Work (General Application) Regulations 2007 Chapter 4 of Part 2

Chapter 4 part 2 of the 2007 Regulations deals with manual handling of loads and regulation 68 defines manual handling of loads as 'any transporting or supporting of a load by one or more employees and includes lifting, putting down, pushing, pulling, carrying or moving a load, which, by reason of its characteristics or of unfavourable ergonomic conditions, involves risk, particularly of back injury, to employees'.

Duties of employers

The 2007 Regulations require employers to avoid the need for employees to undertake any hazardous manual handling in which there is a risk of their being injured. They also require employers to organise work in ways which permit the use of mechanical or other means to prevent the need for manual handling of loads by employees in the workplace.

When moving and handling activities cannot be avoided the 2007 Regulations impose a duty on employers to undertake risk assessments of such activities. As a minimum, such risk assessments should consider the **t**ask, the **i**ndividual's capability, the **l**oad and the working **e**nvironment (summarised in the acronym 'TILE').

Records should be kept of all risk assessments and they should be reviewed annually, whenever there is any reason to suspect they have become invalid or when there has been a significant change in the manual handling activity to which the risk assessment relates.

Once employers have assessed the level of risk, they must reduce the risk of injury to the lowest level that is reasonably practicable.

When risk assessing whether the manual handling of loads involves a risk of injury and when determining what steps are necessary to reduce such risks of injury, the employer must consider the following factors:

- The physical suitability of the employee to carry out the activity (individual risk factors);
- The clothing, footwear or other personal effects being worn;
- The employee's level of knowledge and training;
- Whether the employee concerned belongs to any of the categories of employee identified as especially at risk (e.g. young employees, pregnant employees or employees returning to work after sickness);
- The results of any health surveillance.

In addition, the 2007 Regulations stipulate that an employer must provide employees with general indicators such as the weight and stability of each load, its heaviest side and any other information that will be required to move it and handle it safely.

People handling

When an individual is the 'load' to be manually handled it is reasonable to assume that the rendering of such assistance may be hazardous. People can behave unpredictably and they can present with complex physical and mental conditions as well as complex and unpredictable behavioural patterns. Such individuals may also have medical conditions and be on medication.

However, on the one hand, it will not be a reasonably practicable response to such considerations to decide that people handling must be avoided at all costs (for instance, it would not be a reasonably practicable response to the risks involved in lifting a person's legs into bed to decide that they must sleep in a chair). On the other hand, we cannot leave the employee to deal with manual handling questions without suitable aid in the form of risk assessment, guidance and training.

That is not to say that there will not be instances in which avoidance is appropriate: for example, the solution to a person's need to sit up in bed may well be a profile bed and not the efforts of an employee to get the person into this position.

The required approach in such situations is as follows: you must make a detailed risk assessment of the needs of any person who may be the subject of manual handling and in response to such assessments 'reasonable' interventions must be put in place that will both meet the needs of the person who must be manually handled and take account of the health and safety of the employee/s. This process of assessment and implementation of measures is called 'balanced decision making'.

Training given to employees who will be involved in people handling should follow the guidelines given in the HSA's 2010 document *Guidance on the Manual Handling Training System*. This stipulates that anyone who attends people handling training should:

- Have a basic knowledge of the legislation relating to manual handling;
- Have basic knowledge of the functions of the back and of how it can be injured and how it can be kept healthy;
- Be able to carry out a personal/dynamic risk assessment for the task to be completed to determine if a load can be handled safely;
- Be aware of the specific manual handling hazards identified in the task-specific manual handling risk assessment and the measures required to avoid or reduce the risk of injury, including the use of mechanical aids or the reorganisation of the work activity;
- Be able to state the main principles of safe manual handling and demonstrate the practical applications of the main principles of safe manual handling that are relevant to manual handling tasks in the workplace;
- Be aware of the need to continuously develop and improve manual handling skills in the workplace.

In addition to these learning points, employee involved in people handling should:

- Be aware of the local policies and procedures for handling people that are relevant to their work area (e.g. bariatric guidelines, falls strategies and policies on infection control, hoist management etc);
- Be able to identify the additional factors which need to be included in a manual handling risk assessment for handling people;
- Be aware of the documents that relate to people handling risk assessments in their work area;
- Be aware of the range of handling aids available in their work area and be informed of the safe ways to use them;
- Participate in the practice of the range of core people handling techniques which are relevant to their work area.

Safety, Health and Welfare at Work (General Application) Regulations 2007, Chapter 2 of Part 2

Chapter 2 of part 2 of the 2007 Regulations covers the use of work equipment. Regulation 2 of the 2007 Regulations defines work equipment as 'any machinery, appliance, apparatus, tool or installation for use at work' and thus covers any such device in use in the workplace. The most relevant provisions of these regulations are outlined in the sections below, which cover the duties of employers and the duties of employees.

Duties of employers

Regulation 28 of the 2007 Regulations states that:

An employer shall ensure that:

(a) Any work equipment provided for use by employees at a place of work complies, as appropriate, with the provisions of any relevant enactment implementing any relevant Directive of the European Communities relating to work equipment with respect to safety and health.

This has the following consequences for employers:

- They must identify gaps in their equipment needs;
- They must be aware of the latest developments in equipment design;
- They must check that any equipment they are considering purchasing is compatible with their existing furniture and equipment;
- They must ensure that any equipment they purchase is fit for purpose, and, in particular, that it is appropriate for: the tasks involved, for the work environment and for the needs of people and employees;
- They must ensure that equipment is cared for and that proper maintenance is carried out on it.

Duties of employees

Before using any equipment, employees should check that it is the correct equipment for their system of work (i.e. in the case of people handling, that it is the equipment identified on the individual's moving and handling plan) and they should make a visual examination of the equipment for the level of cleanliness and for damage or wear and tear. Employees also have

a duty to use equipment in the manner in which they have been trained to do so and to ensure that it is safe while they are using it and that it is safely stored.

Safety, Health and Welfare at Work (General Application) Regulations 2016

Part 14 of the Safety, Health and Welfare at Work (General Application) Regulations 2016 deals with the notification of accidents and of dangerous occurences at the place of work. Under these regulations any of the following types of serious accident or dangerous occurrence in a workplace must be notified to the HSA:

- Any death (to be reported to the HSA within five working days);
- Any non-fatal injury (to be reported to the HSA within ten working days of the event);
- Any injury that prevents an employee from performing their normal work for more than three consecutive days, not including the day of the accident, but including any days which would not have been working days;
- Any dangerous occurrences such as the failing of lifting equipment.

You can report accidents online by clicking on the 'Report an Injury' logo that appears on the HSA's website on its Home page.

Duties Owed to the Person Being Assisted

Because balanced decision making is a requirement of the outcome of risk assessment of people handling, your risk assessment must take account of any legislation that applies to a person who is to be manually handled because they are a vulnerable person. Meeting the needs of the individual and their safety is as important as the health and safety of the employee.
Your trainer on your course will highlight any specific legislation that is relevant to the individuals you care for, but examples of such legislation may include:

- The Disability Act 2005;
- The Mental Health Act 2001;
- The Health and Social Care Professionals Act 2005;
- The National Vetting Bureau (Children and Vulnerable Persons) Act 2012;
- The Criminal Justice (Withholding of Information on Offences Against Children and Vulnerable Persons) Act 2012.

Manual Handling Training Standard

Quality and Qualifications Ireland (QQI) is the statutory awarding body for Further Education and Training (FET) in Ireland. QQI makes quality assured awards that are part of the National Framework of Qualifications (NFQ) from levels 1–6.
There are two QQI Level 6 Specific Purpose Certificates: Instructing Manual Handling and Instructing People Handling. As applicable, all new instructors should complete a QQI Level 6 Instructing Manual Handling training programme or a QQI Level 6 Instructing People Handling training programme.
These programmes are delivered by training providers who are registered with QQI and have had their instructor programmes validated by QQI in line with the requirements of the Level 6 Instructing Manual Handling and Instructing People Handling Award Standards.

UNIT 2
The Musculoskeletal System

Our ability to move rests upon our use of the muscles and bones which constitute our musculoskeletal system. This system gives us our form and shape and provides our bodies with support and stability. It is responsible for bodily movements.

CONSTITUENTS OF THE MUSCULOSKELETAL SYSTEM	
BONES (SKELETON)	JOINTS
MUSCLES	LIGAMENTS
TENDONS	CARTILAGE
CONNECTIVE TISSUE (TISSUE THAT HOLDS TISSUES AND ORGANS TOGETHER)	DISCS

The Skeleton

The skeleton is the body's supporting structure. The skeleton has the following important functions:

1. **Support**
   The skeleton supports the body and maintains its shape.
2. **Movement**
   The joints between bones allow for movement. The skeletal muscles are attached to the skeleton at a number of locations on the bones and they provide the power that enables movement.
3. **Protection**
   The skeleton provides protection for a number of organs (e.g. the skull protects the brain and the ribcage protects the lungs and the heart).

Bones

The bones of the skeleton are divided into the:

- Appendicular skeleton (arm and leg bones);
- Axial skeleton (skull, spine, ribcage).

The human body consists of 206 hard, strong and minimally flexible bones of various sizes and shapes (some are long and some short; others are sesamoid, irregular or flat). In fact there are five types of bone in the human body, each located differently:

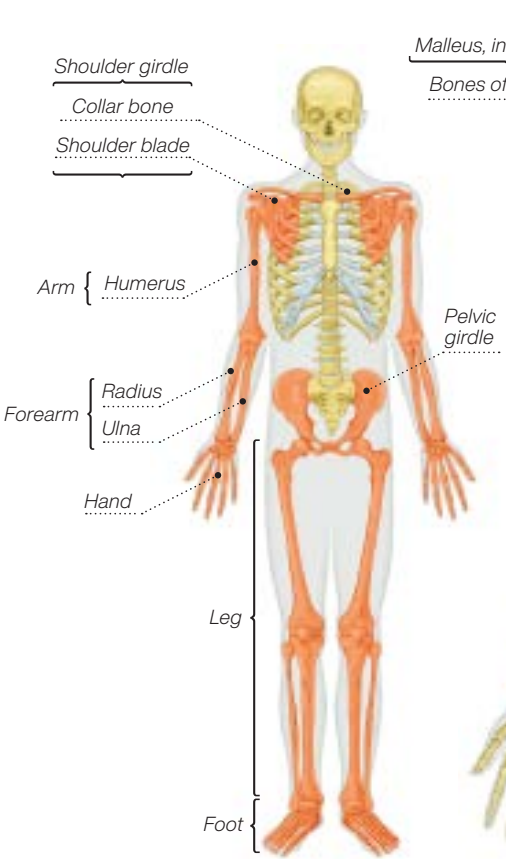


Fig. 1A Appendicular skeleton

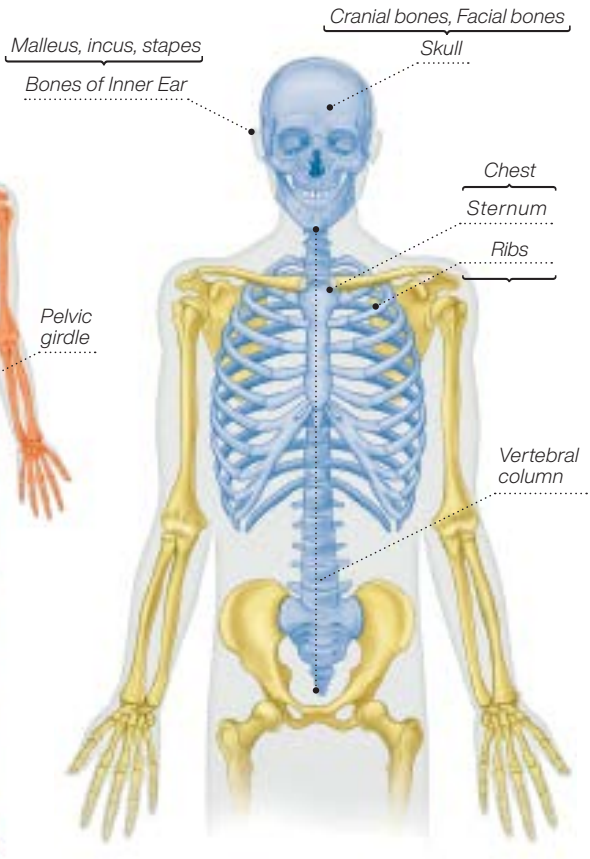


Fig. 1B Axial skeleton

TYPE OF BONE	LOCATION
LONG	BONES OF THE LIMBS
SHORT	WRIST, ANKLE
FLAT	BONES OF THE SKULL
IRREGULAR	SPINE, HIP
SESAMOID	KNEE CAP

Long bones act as levers, flat bones protect organs and irregular bones protect organs and provide the origin for muscles.

Injury to Bones

Fractures

A fracture is any break in the continuity of the bone. A fracture can result from forceful impact/stress or from a medical condition that causes the bones to weaken such as osteoporosis or cancer. Spinal fractures may pinch, compress or tear the spinal cord.

The Joints

The point at which two or more bones connect is known as a joint. Joints are classified according to their structure and function:

STRUCTURE OF JOINT	CHARACTERISTICS/FUNCTIONS	LOCATION
FIBROUS	Joined by fibrous connective tissue; allows little or no mobility	SKULL
CARTILAGINOUS	Joined by cartilage; allows slight mobility	VERTEBRAE
SYNOVIAL	Not directly joined; allows a range of movement	SHOULDER, HIP, ELBOW, KNEE

Vertebral Facet Joints

Facet joints are joints of the spine. They connect each vertebrae with the vertebrae above and below. These join and permit movement of the vertebral column.

Injury to Joints

Manual handling involving excessive bending, twisting and overextension may cause damage to the joints. Repeated lifting to and from a height may cause the facet joints to be pressed together, creating intolerable strain. Over time this excessive strain may cause the joints to degenerate.

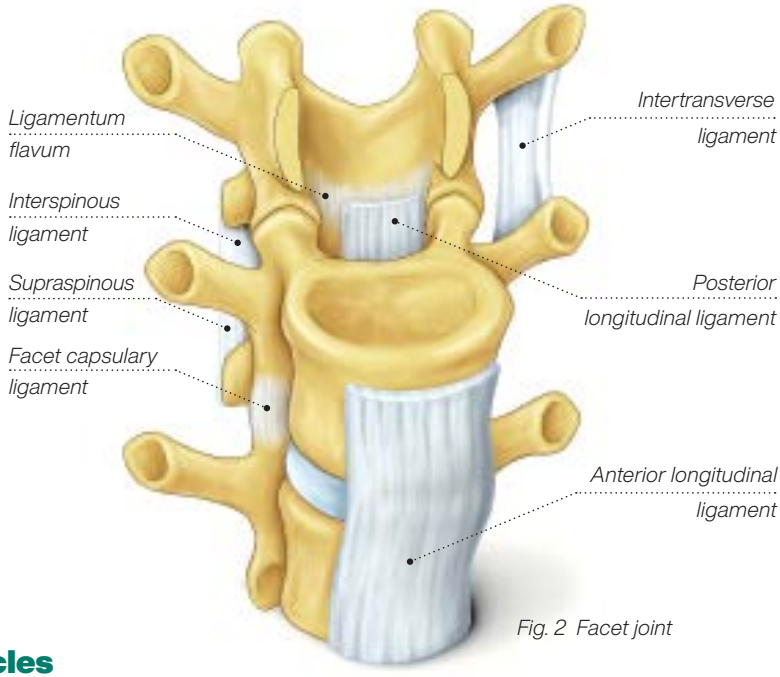


Fig. 2 Facet joint

Muscles

Muscles are formed by the binding together of small muscle fibres into bundles (see Figure 3). Muscles are classified as skeletal, smooth or cardiac (see table below). Muscles receive signals from the brain via nerves. Nerve impulses cause contraction of the muscle fibres. The contraction of muscle fibres causes the shortening of the muscle and causes movement at the joint.

TYPE OF MUSCLE	CHARACTERISTICS / FUNCTIONS
SKELETAL OR VOLUNTARY MUSCLE	Held by tendons to the bone; cause movement and maintain posture
SMOOTH OR INVOLUNTARY MUSCLE	Located in the walls of the stomach, intestines, bladder, urethra, uterus, blood vessels and bronchi. These muscles are not under our conscious control
CARDIAC MUSCLE	Located only in the heart. This muscle is also involuntary

The back muscles provide the power for movement in the spine (see Figure 4). A group of muscles called the erector spinae muscles are active in the bending movement to the side and in the rotation of the spine. By flexing the spine, the external oblique abdominal muscles also play a part in spine movement (see Figure 5). The latissimus dorsi muscle permits bending forward movement, and allows movement of the shoulder, head and arm. The quadriceps (thigh) muscles are also involved when lifting.

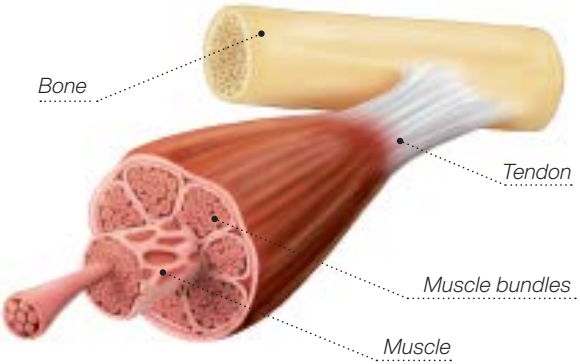


Fig. 3 Structure of muscle

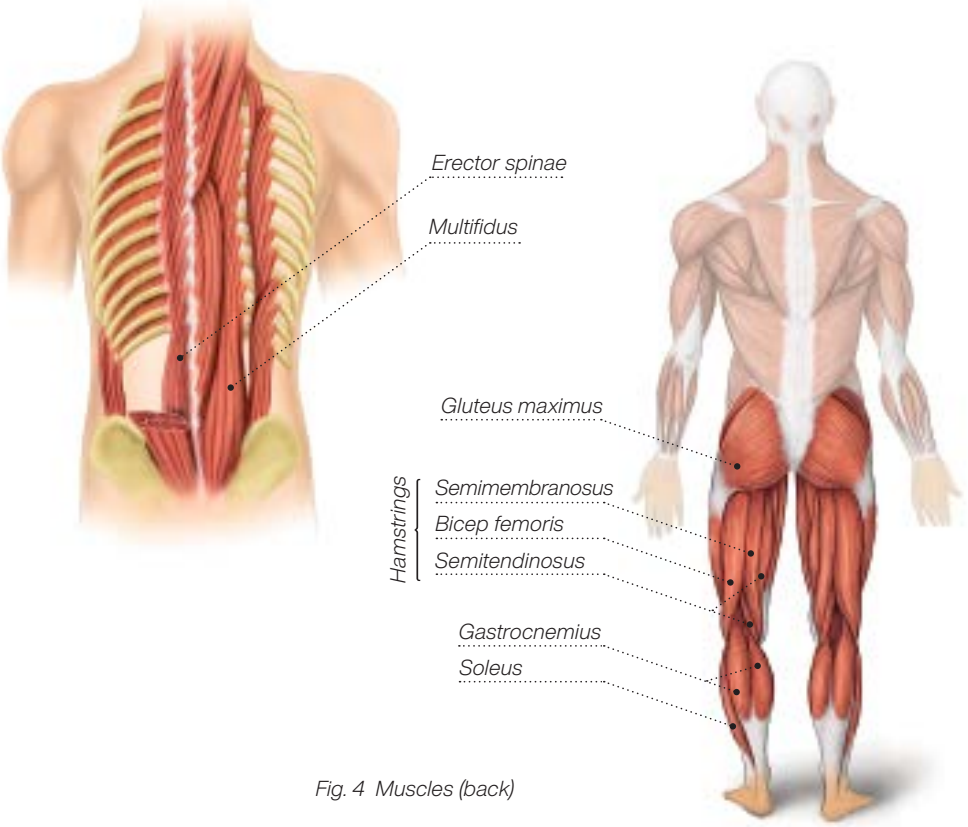


Fig. 4 Muscles (back)

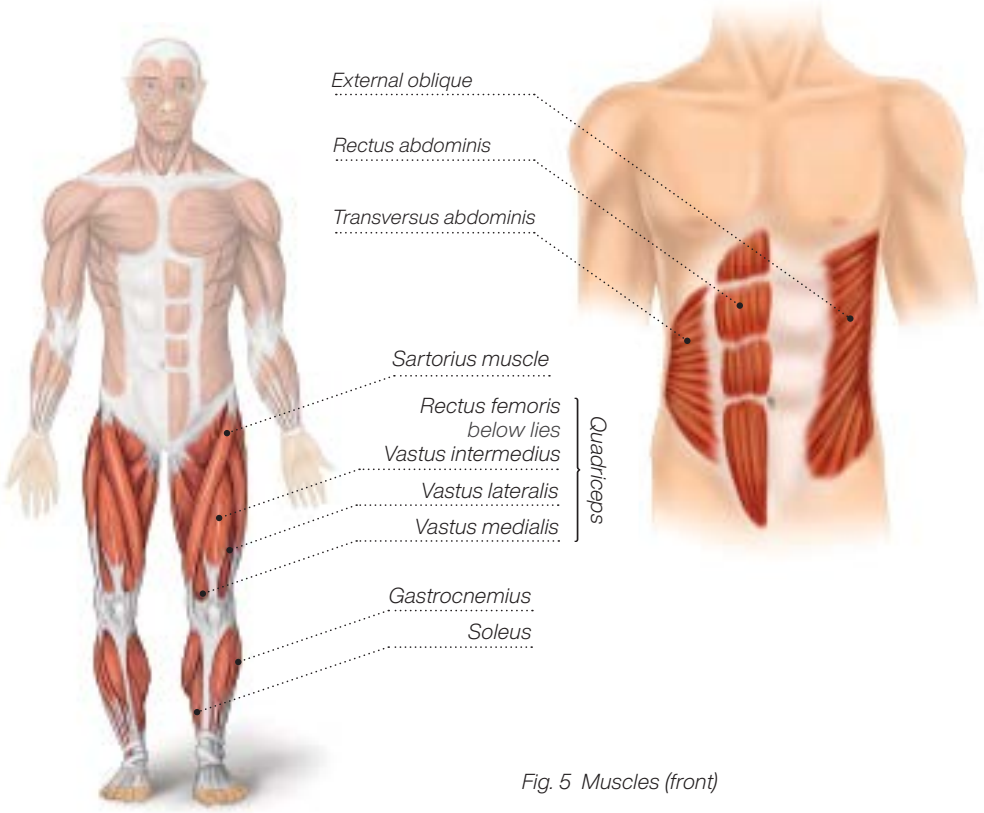


Fig. 5 Muscles (front)

Injury to Muscles

Muscles can be injured in a number of ways:

MOVEMENT	EXAMPLE
SUDDEN, SHARP OR STRONG MOVEMENT	Action when attempting to push a car
REPETITIVE LOW FORCE CONTRACTIONS	Working at a production line
PROLONGED STATIC MUSCLE WORK	Sitting for long periods of time
AWKWARD ANGLE OF PULL OF THE MUSCLE	Bending and twisting
SUDDEN INCREASE OF WORK INTENSITY AND/OR WORKLOAD	Soccer player may cause injury to hamstring when accelerating suddenly during a game

Ligaments

Ligaments connect bones to bones to form a joint. Cruciate ligaments are those that are crossed in pairs (i.e. they are arranged in an 'x' form). Such ligaments can be found in the knee. This formation of ligament provides stability to the joint and permits a huge range of motion.

The posterior longitudinal ligament is found within the vertebral canal and it restricts the range of forward flexion or bending of the spine. The anterior longitudinal ligament is found on the anterior surface of the spine.

Injury to Ligaments

Ligaments in the back may become strained from incorrect lifting, bending and twisting movements. It is these movements that may put our backs under constant or repeated strain. When ligaments become over-stretched they may lose their ability to hold the joints of the back in their correct position resulting in back sprain.

Tendons

Tendons are composed of fibrous connective tissue that connects muscle to bone (e.g. the Achilles tendon located behind the ankle, which is the thickest and strongest tendon in the human body).

Cartilage

Cartilage is composed of flexible connective tissue. It is found at the joints between bones, ear, nose, bronchial tubes and the intervertebral discs. Fibrocartilage is present in the annulus (see Figure 6) of the intervertebral discs.

Connective Tissue

Connective tissue holds tissues and organs together.

UNIT 3
Intervertebral Discs

Discs are located between the vertebrae. Each disc has two functions: it forms a fibrocartilaginous joint which permits slight movement of the vertebrae and it works like a ligament by holding the vertebrae together.

The discs are composed of an outer part called the annulus, which surrounds the inner part, called the nucleus. The nucleus contains a gel substance with the consistency of a jelly (see Figure 6). It is the nucleus of the disc that acts as the body's shock absorber between the vertebral bodies (see Figures 7 and 8).

This jelly or nucleus may be forced out of the disc completely ('herniated disc'), causing pain as it exerts pressure on the nerve lying near the disc (see Injury to Discs below).

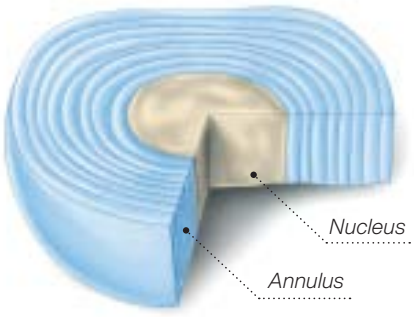


Fig. 6 Disc or intervertebral disc

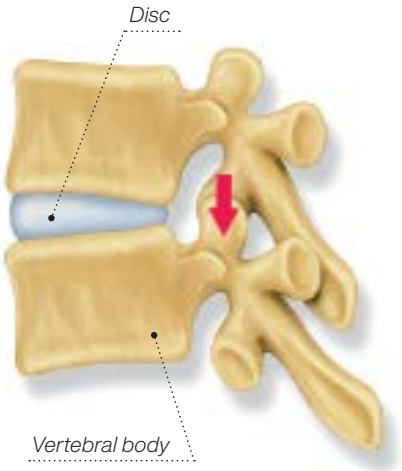


Fig. 7 Movement of facet joints – bending backwards movement or extension

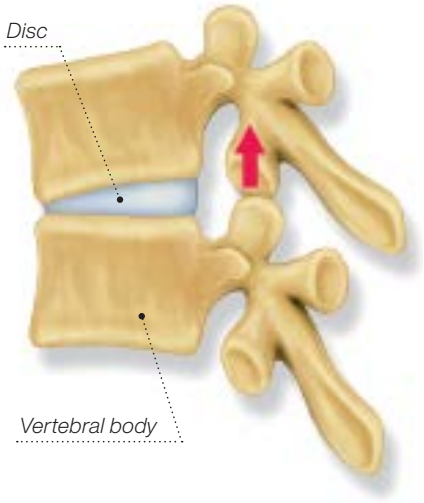


Fig. 8 Movement of facet joints – bending forwards movement or flexion

Functions of the Disc

- Resists compression and shearing stresses on the spine;
- Acts as shock absorber;
- Separates vertebrae.

Because the discs have little in the way of direct blood supply they rely on a supply of nutrients through the blood vessels and tissues. Without an adequate supply of nutrients the cells of the nucleus will die.

Injury to Discs

At the top of Figure 9 you can see a **normal disc** (a). A **normal disc** is perfectly formed and cushions the vertebrae above and below it. The **degenerative disc** (b) shown in figure 9 illustrates the natural process of degeneration of the disc as we age. The **degenerative disc** loses its flexibility, elasticity and ability to absorb shock. Next is shown the **bulging disc** (c), which may result when the disc moves out of its normal position. This may occur as part of ageing. It is more likely to occur gradually than suddenly. The **herniated disc** (d) shown next is similar to the bulging disc, but may result from a sudden injury sustained when lifting without bending the knees and keeping the back straight (i.e. bending at the waist). The **thinning disc** (e) and degenerating disc (f) may be indicative of degenerative disc disease. It is clear to see that the bony vertebrae on either side of the disc will rub together. The friction of the two vertebrae may encourage the growth of the type of bone spurs ('osteophytes') shown at the last level of Figure 9 (disc degeneration with osteophyte formation (g)). By encroaching on the nerves these bony overgrowths may cause pain.

The above mentioned spinal injuries may occur as a result of repeated bending, twisting and lifting or sudden unexpected movements as well as the holding of awkward and/or static postures for long periods of time.

Fig. 9 Various disc injuries

UNIT 4
Anatomy, Structure and Function of the Spine

Vertebral/Spinal Column

The vertebral column consists of 33 vertebrae separated by intervertebral discs.It serves to protect the spinal cord within the spinal canal.

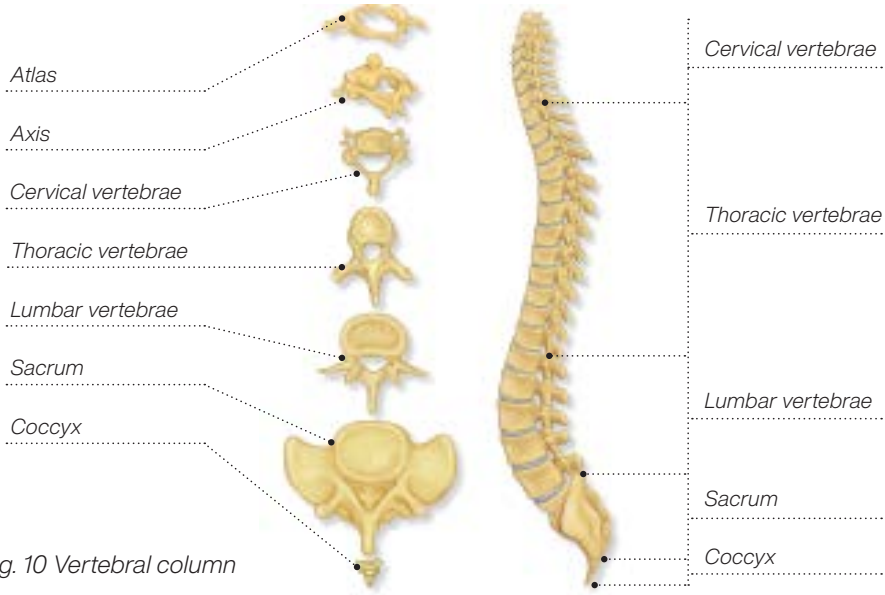


Fig. 10 Vertebral column

TYPE OF VERTEBRAE	NO. OF VERTEBRAE
CERVICAL	7 (C1–C7)
THORACIC	12 (T1–T12)
LUMBAR	5 (L1–L5)
SACRAL	5 (S1–S5) FUSED
COCCYGEAL	4 FUSED

Each vertebra is composed of a front segment (vertebral body) and a back segment (vertebral neural arch) (see Figure 11).

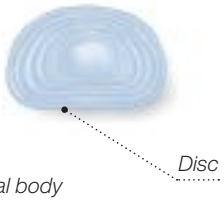
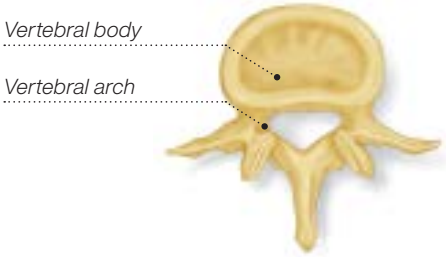


Fig. 11 Vertebral body



Functions of the Vertebral/Spinal Column

FUNCTION	DESCRIPTION
PROTECTION	Protects the spinal cord, which it encloses
MOVEMENT (see Figure 12 below)	Permits movement of the trunk: forward, backward, and left and right bending
SUPPORT	Supports the head
PRODUCTION	Produces red blood cells
ATTACHMENT	Provides structural attachment for the ribs

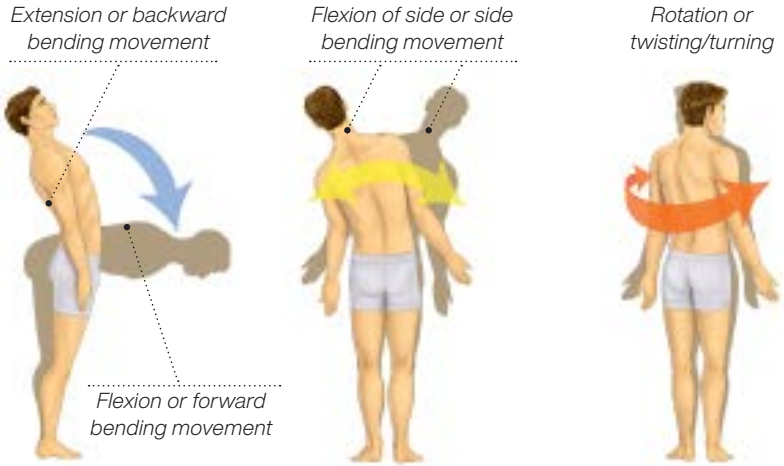


Fig. 12 Movement of the trunk

UNIT 5
Posture and Back Pain

Posture

Learning and maintaining good posture is a sure method of preventing back pain. Remember the spine is not naturally straight: it has natural curves both slightly forward (in the lumbar region) and backward (in the thoracic region). A neutral or good posture is ensured when the ears, shoulders, hips, knees and ankles are aligned, when standing. To achieve this imagine a plumb line running from your ears down through your upper body to your legs and your feet (see Figure 13 on the right).

Back Pain

Back pain may occur as a consequence of excessive wear and tear, incorrect posture, incorrect lifting techniques, prolonged heavy physical work, being overweight, lack of fitness, or an underlying medical condition.

Types of Back Pain

Mechanical problems

- Herniated disc;
- Bulging disc.

Cause

Weakness or tear in the outer ring of the disc: the nucleus moves outside and soaks up copious amounts of water. The nucleus then swells rapidly making it impossible for it to move back into the disc.

Effect

The herniated disc may exert pressure on the nerves resulting in pain, numbness, and a reduction of strength and the ability to move.

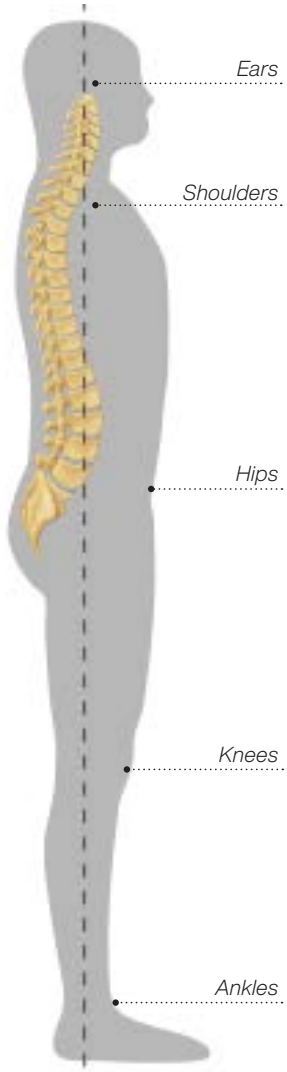


Fig. 13 Neutral or good posture

Arthritis of facet joint

The facet joints are covered by smooth cartilage and surrounded by ligaments, and they are lubricated with a fluid called Synovial fluid. The facet joints may develop arthritis and become painful.

Cause

The affected facet joints develop bone spurs (a bony growth formed on normal bone). These bone spurs will restrict the space available for the nerve roots as they leave the spinal canal. Therefore the nerve roots become pinched, causing pain, numbness and weakness.

Effect

Arthritis of the facet joints may cause back pain that worsens with twisting or bending backward movements.

Strained Muscles

Cause

Muscle fibres may become strained or abnormally stretched or torn as a consequence of overloading or sudden movement.

Internal problems

Back pain may also be caused by the presence of an underlying medical condition.

UNIT 6
Fitness and Flexibility

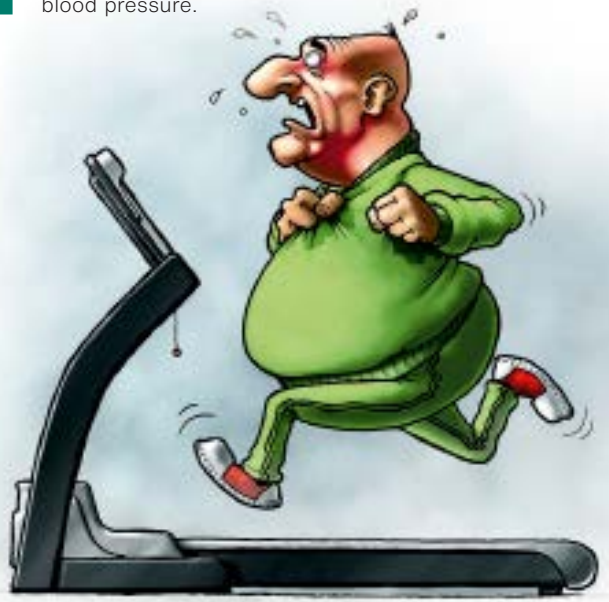
There are 4 elements to fitness:

1. **Endurance** is the capacity of the body to exert itself for a period of time. You can build up your endurance gradually (e.g. if you want to start jogging, begin with 10/13 minutes, and build slowly to 20 minutes). Experts recommend that those with average levels of fitness undertake at least 30 minutes per day of endurance activities such as walking, cycling, swimming and so on. Regular endurance activities not only improve posture and balance but also promote better health and weight control.

2. **Flexibility** refers to the capacity of your joints and muscles to move within a certain range. The degree of flexibility varies from one person to another. Flexibility of joints can be increased by exercise and stretching. Stretching may be done after endurance and strength activities. Experts advise holding your stretch for 10/15 seconds without bouncing. Stretching incorrectly may cause harm.

3. **Strength** of muscle assists the protection of joints and muscles from injury (e.g. the abdominal and back muscles support the back during lifting). Muscle strength can be increased by engaging in special weight/strength training programmes. Strong muscles improve mobility and posture.

4. **Aerobic fitness** improves the functioning of the heart; it also improves the functioning of the lungs as it increases circulation efficiency and reduces blood pressure.



REMEMBER!

Before undertaking any stretching, strengthening or training programme always seek the advice of your GP and seek the professional advice of a personal trainer or your local fitness centre/gym instructor.

UNIT 7

Ergonomics: The Science of Fitting the Task to the Person

Ergonomics is the practice of applying the results of scientific research into human physiology and psychology to the design of environments, objects and systems of work for use by people. As such, ergonomics is an integral part of risk control in the workplace and in the healthcare setting ergonomics must be used to match the employee to the task. Doing so will help to ensure:

- Efficient working practices;
- Health and safety;
- Comfort, ease of use and the enabling of employees.

Key Aspects of Ergonomic in Healthcare Settings

Clear communication: verbal, non-verbal and written communications should ensure that everyone involved in a workplace activity has a full understanding of what is going to happen.

Sufficient space: every activity must have an optimum space to ensure the activity can be carried out easily and efficiently.

Slip and trip hazards: planning and preparation ('dynamic risk assessment') reduce the likelihood of unrecognised or uncontrolled risks.

Appropriate equipment: before use all equipment must be assessed for its suitability for the person who will use it and to ensure that it is fit for purpose; that it will be used by a person who has been trained in its use; that it is clean; and that it is safe to use (such assessments will reduce the likelihood of incidents).

Height adjustable work surfaces: postural strain during work activities will be reduced by using equipment such as a height adjustable bed to deliver personal care.

Training and supervision: appropriate and sufficient training will enable employees to work more safely and efficiently. Adequate supervision is also necessary to help employees achieve the required standard and to enable them to apply their training in the workplace.

UNIT 8

Risk Assessment of People Handling and Inanimate Handling

Ideally, the aim of any system of work in which manual handling of people or of inanimates may be necessary is to avoid such handling. However, in those instances in which such manual handling of loads cannot be avoided, the HSE must take all measures that are reasonably practicable to reduce the risks associated with it.

This process of risk reduction begins with an assessment of the levels of risk associated with the work task in question ('a risk assessment'). There are two types/levels of risk assessment: formal, written risk assessments and personal assessments of risk ('dynamic risk assessment').

A formal, written risk assessment must be compiled by a competent person when the relevant legislation requires such a risk assessment to be carried out. By contrast, a dynamic risk assessment should be carried out by every employee before they undertake a work task. It is the 'Stop and Think before you Do' level of assessment which everyone makes in everyday life before carrying out common tasks such as crossing the road.

Formal Risk Assessment

You should always compile a written risk assessment in the workspace in which the activity to be assessed occurs and you should make sure that it reflects the actual practice that you are assessing (if necessary, consult someone who is involved in the manual handling practice you are assessing). The process of creating a formal, written risk assessment is straightforward and comprises the following series of simple but logical steps:

1. Identify the hazard.
2. Identify who might be harmed and how they might be harmed.
3. Evaluate the risk/s involved.
4. Devise a plan to eliminate the risk, or, if that is not possible, to reduce it.
5. Implement the plan and then regularly review its effectiveness.

In the case of the manual handling of people or inanimates, a formal risk assessment will identify whether or not there are manual handling activities in the workplace and if there are, whether or not these activities are hazardous. When your risk assessment identifies the presence of a manual handling hazard, you must take the following steps:

1. Avoid hazardous manual handling as far as is reasonably practicable.
2. Risk assess any hazardous manual handling practice that cannot be avoided.
3. Reduce the risks identified to the lowest level that is reasonably practicable.
4. Review your risk assessment of the hazardous manual handling practice regularly or if the circumstances surrounding it change.

When the manual handling practice to be assessed is a case of people handling the risks are self-evident and more often than not such manual handling will be deemed hazardous.

Avoiding hazardous manual handling

If it is reasonably practicable to avoid hazardous manual handling of people or inanimates then it should be done. Of course, this does not necessarily mean that an entire task must be avoided, but rather that you should avoid the hazardous element of the task. So, for example, in the case of people handling, it does not mean that an individual should not be moved or assisted, but it does mean that a balanced decision needs to be made; and remember:

> A balanced decision is one that takes account of all relevant factors, balances the requirements of all legislation and the needs of the people involved. It aims to find a workable solution, rather than one party dictating an outcome to another.*

Examples of avoiding hazardous manual handling are the following:

- Using a profile bed to bring an individual into a sitting position (see Figure 14);
- Lifting an individual with a hoist and sling (see Figure 15);
- Turning and supporting an individual inside or lying on the bed with an in-bed turning device and hoist (see Figure 16);
- Lifting legs into the bed using a mechanical leg-lifter.

Fig.14

** (J Smith et al The Guide To The Handling of People: a systems approach 6 edn, 2011)*

Fig.15

Fig.16

Risk assessing hazardous manual handling

When you must risk assess the manual handling of people or inanimates, obtain the job description of the task and analyse it by breaking it down into its obvious parts such as:

- Does it involve people handling or inanimate handling?
- How is it to be undertaken? For example, is it a team lift?
- What is the weight of the load?
- What is the size of the load?
- Does the load have a heavier side?
- Does it require different movements (e.g. lifting, pushing etc)?

As an aid to this process, the main elements of a manual handling risk assessment are commonly analysed using the framework TILEO:

T Task
I Individual capability (capacity of person to do the task)
L Load (individual or object to be moved)
E Environment (task location)
O Other (any other factors (e.g. equipment, staffing levels etc))

Such a task analysis involves gathering information and then considering all the factors involved (see information box on the next page).

TILEO

This scheme of questions is a useful tool for guiding you through the process of analysing a manual handling task (see Safety, Health and Welfare at Work (General Application) Regulations 2007, Schedule 3).

Task

- Do you have to hold the person or inanimate at a distance from your trunk?
- Do you have to twist and/or bend?
- Is there any risk of sudden movement of the load?
- Does the task require frequent or prolonged physical effort?
- Is it repetitive?

Individual capability

- Does the task require a person of unusual height or strength?
- Does the task pose a risk for pregnant women or those with health problems?
- Is special knowledge or training necessary for safe performance of the task?

Load

- Is it heavy or bulky?
- Is it awkward or difficult to grasp, or unstable, or will its contents move?
- Is it sharp or hot?
- If the load is a person, can they assist, understand and communicate, and what is there medical history, do they use medical aids?

Environment

- Is there sufficient space and appropriate lighting?
- Is the floor slippery or uneven and are there variations in its level or the workstation level?
- Is the room temperature appropriate (not too hot, not too cold)?

Other

- What are the staffing levels (variations between day and night shifts)?
- What equipment is available (including footwear and clothing)?
- What level of supervision is available and is there a history of manual handling incidents?

Useful Tools for Identifying High/Key Risk Manual Handling Tasks in the Workplace

The tools listed below have been created to help you assess the manual handling tasks in your workplace:

MAC: these are free manual handling assessments charts (MAC) which help you identify high-risk manual handling tasks in your workplace. You can use this tool to assess the risks posed by such manual handling tasks as lifting, carrying and team manual handling, and it will help you understand, interpret and categorise the level of risk of the various known risk factors associated with these activities (it uses a numerical and colour-coded scoring system to highlight high-risk manual handling tasks).

RAPP: the risk assessment of pushing and pulling (RAPP) tool is designed to help you assess key risks in manual pushing and pulling operations that require whole body effort. It is intended to be used with the MAC tool and has a similar approach. You can use it to identify high-risk pushing and pulling activities and to check the effectiveness of the risk reduction measures you have chosen.

Formal assessment of people handling

When the load is a person, a considerable amount of information about that person will be needed in order to understand his or her needs and abilities, and to ensure that a suitable handling method is used.

A written risk assessment of such a person's needs should consider factors such as the following:

- Physical ability and level of independence;
- Behaviour patterns (predictability and compliance);
- Ability to communicate and level of cognition;
- Person's weight, height and body shape;
- Level of vision and hearing;
- Level of pain and/or medication;
- Tissue viability (vulnerability to bruising, shearing, friction, pressure, etc);
- Infection control requirements (use of protective equipment such as aprons or gloves);
- Falls history;
- Comfort needs;
- The person's expectations, wishes and concerns (including any linguistic, religious, cultural and social factors);
- How much help the person will require;
- Any constraints on handling (e.g. catheters, wound dressings, medical conditions, etc).

Consultation with Service Users

The wishes and safety of the person to be handled must be balanced with the need to protect employees from the risk of injury. The person to be handled (or those acting on their behalf) must be actively involved throughout the process of assessment and decision making and their independence must be encouraged at all times.

Risk reduction

By establishing a suitable system of work with clear instructions on how it should be implemented, you should be able to reduce to reasonable levels the risks involved in manual handling of people and inanimates. In the case of the manual handling of people, such a system of work must be contained in an 'individual handling plan'. This should describe the transfers required, the number of employees needed to assist, the equipment to be used and any other relevant information. The individual handling plan should also be:

- Sufficiently detailed (e.g. sling size, type of attachment and attachment points to be used etc);
- Accessible to all those who need to read it;
- Read and implemented by those undertaking the activity;
- Reviewed regularly, and especially if there are changes in the circumstances surrounding the activity or if there has been an incident.

Creating generic assessments and written protocols can save time and reduce duplication of documents for tasks that will be repeated, such as the use of a hoist. Such generic assessments and protocols should identify the risks associated with the task and give instructions on how to carry it out.

Protocols should form the basis of a training programme. If in people handling a hoist or sling is used for an individual, generic information about using it should be available for reference alongside the specific individual handling plan. Any details or points specific to the particular person must be identified on their individual handling plan (e.g. which type or size of sling and points of attachment are to be used).

Types of Formal Written Risk Assessment

Generic unit/departmental risk assessments: these assess the general situation in the workplace, taking account of the work environment and work activities, and identify the range and complexity of manual handling activities and the factors affecting them.

Task specific risk assessments: when a generic risk assessment identifies that a manual handling task presents a risk of injury these must be assessed in greater detail to determine what extra controls are required.

People handling risk assessments: written individual risk assessments for all individuals requiring handling must be created. These should provide clear details of methods of handling the individual that are safe for both the individual and the employee/s.

Dynamic Risk Assessment

Because circumstances may change in ways that cannot be anticipated in a formal written risk assessment every employee must make a personal assessment ('dynamic risk assessment') of a people handling or inanimate handling task before carrying it out.

This is of particular relevance to cases of people handling. Although the individual handling plan must be followed and if you suspect that it no longer applies you should report this and the risk assessment should be reviewed, nevertheless people pose challenges that are not encountered with inanimate loads. They can change their minds, their moods may vary and they can become tired. Because of this additional dimension of people handling, you should make an on the spot assessment of the continuing relevance of the written system of work before you assist an individual.

You should use TILEO analysis in your dynamic assessment to make sure that you take all the relevant factors into consideration, so when conducting your dynamic assessment, ask yourself the following questions:

Task

- What is the task?
- How far must the load (person or inanimate) be transferred?
- How often must the task be done?
- Is there a risk of sudden, unexpected movement?
- How long is the task going to take?
- Is the task repetitive?

Individual capability

- Is the task within my physical capability?
- Do I need help?
- Have I sufficient knowledge, training and skill for the task?
- Does this task require unusual strength or height?
- Does this task pose a risk to anyone who is pregnant or who has health issues?
- Am I wearing the correct footwear, clothing or protective items?
- In the case of people handling, have I taken into account the need to manage cross-infection?

Load

Person:

- Have I read the individual handling plan?
- Can the individual communicate with me?
- How much can the person do for themselves?
- Is the person cooperative and is their behaviour predictable?
- Does the person have special needs (e.g. skin or tissue fragility)?
- Is the person in pain or discomfort and do they require their medication?
- Does the person have a history of falls?

Inanimate:

- Is the load heavy or bulky?
- Is the load awkward or difficult to grasp?
- Is the load unstable or are its contents likely to move?
- Is the load sharp?
- Is the load hot?

Environment

- Is there sufficient space?
- Is the work area clear?
- What is the flooring like?
- What is the height of the working surface?
- Will the lighting or ventilation of the work area affect performance of the task?

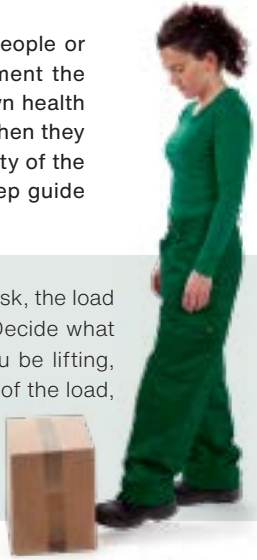
Other

- Have I the right equipment?
- Am I trained to use the equipment?
- Have I checked the equipment for safety and cleanness?
- Does the task require specialist knowledge or information?
- In the case of people handling, are there questions of mental capacity and is the person expressing concerns about being assisted?

UNIT 9

The Principles of Good Manual Handling Techniques

Every employee of the HSE engaged in manual handling of people or of inanimates has a responsibility to ensure that they implement the principles of good manual handling in order to protect their own health and safety, the health and safety of others, and in particular, when they are engaged in manual handling of people, the health and safety of the person who is being handled. Below you will find a step by step guide to 11 principles of good manual handling:



1 **Think before you lift:** carry out an assessment of the task, the load and the area in which the task must be carried out. Decide what type of manual handling will be required (e.g. will you be lifting, pulling, pushing, etc, the load?). To assess the weight of the load, push it gently with your foot or your hands/arms. Use TILEO to assess your capabilities for the particular manual handling task.

2 **Keep the load close to your waist:** as long as it is safe to do so, keep the load's centre of gravity close to your own centre of gravity by keeping it close to your waist (this will help your stability and reduce the effort required of you).

3 **Adopt a stable base:** create a broad, stable base for yourself before you lift by spreading your feet shoulders/hip's width apart and then planting them flat on the ground with one leg slightly ahead to keep your balance.

4 **Ensure a good hold on the load:** grasp the load firmly, using the full surface of your palms ('palmar grip') and make sure your elbows are tucked in.

5 **Bend your back, hips and knees slightly:** at the start of the lift you can assess the load's weight by tilting it, and then moderate flexion (slight bending) of the back, hips and knees is preferable to fully flexing the back (stooping) or the hips and knees (squatting).

6 **Don't flex your spine any further as you lift:** Be careful not to flex you back as you start to stand upright and lift the load. Maintain the natural S curve of the spine ('back in neutral') and keep this good posture throughout your lift. You can also use your legs for weight transference as you push up smoothly and slowly.

7 **Avoid twisting your trunk or leaning sideways (especially while your back is bent):** avoid the combination of bending and twisting when lifting; look ahead and keep your shoulders level and facing the same direction as your hips; use your feet to change direction rather than twisting your body to do so.

8 **Keep your head up while handling the load:** lift your head as you rise, avoid sudden movements and keep your arms close to your trunk. Don't look at your load.

9 **Move smoothly:** if possible, lead with your head and continue to keep the weight of the load close to your centre of gravity (at your waist). Don't make jerky movements.

10 **Don't lift more than you can easily manage:** remember your TILEO assessment of your individual capabilities and if the load is too heavy for you or you are in doubt, get help or use a mechanical aid such as a trolly.

11 **Put the load down, then adjust if necessary:** put the load down first and then slide it into the position you need.

Always apply these principles of good manual handling when you are a lifting a load to and from a floor, a work surface or a height.

If you are lifting as shown below then you are risking serious back injury!

NEVER
Bend over the load that you are lifting

NEVER
Bend over the load with feet placed together

NEVER
Stand too far from the load

NEVER
Lift far away from the centre of gravity

NEVER
Twist with the load

NEVER
Lift with incorrect grip

Team Lifting

In general, you should apply the principles for a one person lift to a team lift, but the following should be kept in mind for a team lift. To start with, make sure the team is of the same height, ability etc.

Fig. 17 Persons of equal ability assessing the area and load

Fig. 18 Agreed person giving instructions

Instructions should be given by one person only throughout the lift (e.g. 'I will say ready, steady lift' or I will say 1, 2, 3 lift' or 'I will say prepare to lift and lift' (see Figure 18)) and they should be clear and precise.

Before lifting the load, employees should raise it slightly to ensure they are all comfortable with it (see Figure 17).

Fig. 19 Prepare to l ift

Fig. 20 Lift

When preparing to lift use the principles of good manual handling: keep the load close to your waist, adopt a stable base, get a good hold on the load (palmar grip), bend back, hips and knees slightly, hold this position and lift smoothly with your head raised (see Figures 19 and 20).

Incorrect team lifting (such as that shown in Figures 21 and 22) **with twisting and bending of the back may cause serious back injury.**

Fig. 21 Bending at the waist

Fig. 22 Twisting of trunk

ALWAYS REMEMBER!
If the load is too heavy for you, get help, but try to find someone who is the same height as you and who has the same level of ability

Carrying a Load

Before carrying a load, consider whether using a trolley or wheeled device is a practical alternative.
If you decide that carrying the load is your most practical option, to avoid pain and injury when carrying the load, apply the same principles as for lifting, but also, remember to try to balance the weight of the load across your body. For instance, carry two small loads rather than one large one (e.g. use two small bags (one in each hand) rather than one big one). If you can't divide the load, hold it close to your body, gripping it firmly with both hands (palmar grip) and making sure that you can see over the load at all times.

REMEMBER
You can use the RAPP tool to assess the risks in pushing or pulling manoeuvres that require whole body effort

Pulling and Pushing a Load

If you have the choice, it is better to push rather than to pull a load: your line of vision will be better when pushing and you will put less pressure on your back. Also, if you should lose control of the load it will move away from you instead of towards you.

Fig. 23 Transfer body weight – pulling

When pushing a load transfer your weight on to your front leg and move off (see Figure 24) and then maintain the natural S curve of your back.
When pulling a load place one foot in front of another. Transfer your body weight on to your back leg while at the same time bending your back knee slightly (see Figure 23) then pull. Maintain the natural S curve of your back and stop every few steps, release the load and ensure that your way is clear. DO NOT twist.

Fig. 24 Transfer body weight – pushing

Reaching

When reaching for a load, apply the same principles as for pushing and pulling: transfer body weight correctly and do the following:

1. Bend your knees slightly, tuck in your chin and put one foot slightly forward.
2. Place the weight of your body on to your front foot as you reach for the load.
3. Once you have assessed the load and are ready to retrieve it, get a good palmar grip on it.
4. As you lift the load down, transfer your body weight on to your back leg.

When you are reaching to place a load into position, transfer the weight of your body to your front leg while keeping an upright posture.

PART 2

PEOPLE HANDLING

UNIT 10
Manual Handling of People

We must be clear from the outset that the manual handling of people is not just a matter of health and safety but is also the meeting of a care need.

Manual handling is any transporting or supporting of a load, and includes lifting, lowering, pushing, pulling, carrying or moving by hand or bodily force.

Supporting activities using static postures are commonly seen in healthcare work (e.g. supporting limbs, holding an individual in a side lying position for personal care, washing, dressing, administering medication and many more). These supporting activities are likely to cause postural strain, with the potential for resulting injury, and must be risk assessed in the same way as the activities used to assist an individual to move.

Meeting mobility needs

Manual handling of people as a load is undertaken when they cannot move without assistance. It is about meeting their mobility needs and in healthcare we prefer to describe this as 'moving and handling'.

The degree of assistance a person requires will depend on the activity level of the individual and a higher level of assistance generally increases the risks to the employee.

The handling of people is recognised as hazardous for a range of reasons and the approach below should be applied for both static work and assisting mobility:

- Avoid hazardous handling as far as is reasonably practicable;
- Assess what cannot be avoided;
- Reduce the risk of injury to the lowest level reasonably practicable;
- Review and record.

Note that 'avoid' does not mean an individual's needs are not met: our aim is to avoid any hazardous manual handling while still completing the task (e.g. a profile bed can be used to assist an individual to sit up in bed rather than two employees manually assisting him or her). Even in higher-risk situations a balanced decision must be made that ensures risks are managed at a reasonable level whilst the individual's needs are also met reasonably as well. What is to be considered 'reasonable' should be identified by a risk assessment made by a competent assessor.

The manual, 'full body' lifts undertaken in the past are now seen as high risk and as unacceptable or controversial and should and can generally be avoided in most healthcare settings.

An individual's activity or mobility needs can be categorised as follows:

Independent :
a) Complete – can move themselves without intervention.
b) Moderate – can move themselves but may use an aid or need extra time.

Dependent:

c) Supervision – needs verbal prompting or someone to set up aids.

d) Minimal assistance – contributes at least three quarters of the effort but light assistance is needed.

e) Moderate assistance – contributes at least half the effort and needs more assistance.

Completely Dependent:

f) Maximum assistance – contributes less than half the effort and needs significant assistance.

g) Total assistance – contributes less than a quarter of the effort, if any, needs total assistance.

Type of assistance

The assistance required should be identified by risk assessment of the individual and this should be recorded in a handling plan to ensure consistency of management.

The aim of assistance

Our aim is to give the least level of assistance necessary for the individual to complete the desired movement. In practice this will involve the following considerations:

- Promote and maintain independent function wherever possible;
- If assistance is required, encourage the individual to do as much as he or she can independently and only with additional aids or physical intervention if necessary;
- If total assistance is required, make a careful risk assessment to identify the right equipment and the right number of employees to complete the activity with a reasonable level of risk and effort.

UNIT 11
Controversial Techniques

Current guidance on practice (see Smith, J et al The Guide to Handling People 5th and 6th edns (2005 and 2011) BackCare) **teaches us that some techniques for the manual handling of people which were used in the past would now be considered high risk and potentially harmful to either the employee or the individual or both. It is, therefore, unacceptable to use these techniques as a standard practice when assisting individuals to move.**
The trainer delivering your course will give you information on these controversial techniques but the following list enumerates some of them and gives basic definitions of them:

A. Manual lifting all or most of an individual's body weight. (This may still be undertaken in exceptional circumstances as long as a specific and detailed risk assessment has been completed (e.g. by the emergency services). The law requires that hazardous handling should be avoided where possible and, where it cannot be avoided, a detailed risk assessment must be done.) **Such lifts include:**

- Top and tail lift;
- Orthodox or cradle lift;
- Through-arm or hammock lift;
- Australian or shoulder lift;
- Drag lift.

B. Drag lift or under-arm hook to assist an individual to stand, walk, move up the bed or sit forward in a chair or bed.

C. Bear-hug stand or pivot transfer to assist an individual to stand or move from seat to seat.

D. Pulling up by holding hands to assist an individual stand up from a chair or the floor. (N.B. this is not the same as holding hands and prompting an individual to stand as described later for an individual with dementia.)

UNIT 12
Standard Preparation

Preparation for Assistance

The following lists give the standard preparation that should be undertaken before any type of assistance is given (see Smith et al The Guide to Handling People 5th and 6th edns (2005 and 2011) BackCare). It applies to all the methods described in the chapter on Methods of Assistance (additional specific preparation for a method is covered in that chapter).

Always:

- Read the individual's handling plan;
- Do a dynamic risk assessment to identify any additional factors which could affect the situation (e.g. create adequate space, consider the question: is anything likely to cause a distraction during the activity?);
- Consider the optimum starting position for the individual and the employee;
- Identify the best form of communication for the individual (e.g. verbal, visual etc);
- If in doubt how to proceed then ask.

Fig. 25

Fig. 26

Prepare the environment and the equipment:

- Create sufficient space for the activity and clear any obstruction (e.g. wires);
- Check that any routes to be used are clear and the destination point is ready;
- Consider any risks created by the environment and manage them;
- If transferring an individual, bring the departing and receiving points as close as possible;
- Collect the equipment assessed/prescribed for the individual and the activity;
- Check the equipment is clean, safe and ready for use (see Figure 25);
- Use the equipment in accordance with your training and the manufacturer's instructions;
- Report any equipment that is unsuitable or unsafe to use;
- Apply brakes where appropriate (see Figure 26);

- Adjust working height where appropriate, particularly height adjustable beds;
- If bed safe-sides are in situ, ensure these are lowered on the side you are working on to avoid reaching over and stooping;
- If kneeling consider using a kneeling pad to protect your knees.

Prepare the individual:

- Explain the process and seek the individual's consent for the activity;
- Check the individual's current ability matches his or her assessed ability (physical, behavioural and cognitive);
- Check that the individual has no pain or discomfort, especially at any point where you will have direct contact with his or her body (e.g. hips, knees etc);
- Check that there is no additional action required (e.g. pain medication);
- Ensure the individual is wearing appropriate footwear and if they use spectacles or hearing aids that these are fitted;
- Check that the individual is in the optimum start position;
- Give clear instruction about the activity;
- Encourage the individual to participate as fully as his or her ability allows (see Figure 27).

Fig. 27

Prepare yourself:

- Ensure the activity is within your capability (e.g. physical, experience, skills);
- Use the appropriate number of employees to assist;
- Apply your knowledge of biomechanical principles and the type of manoeuvre;
- Eliminate or reduce the need for any unnecessary movement (e.g. stooping, twisting, repetitious movements);
- Use the appropriate hold and method described for the activity;
- Adopt the basic stance, half-kneel stance or power squat depending on the activity (see Figures 28, 29 and 30).

The manoeuvre:

- Communicate clearly and appropriately with the individual and/or colleague(s);
- Identify who will lead any team move;
- Agree on the words of command (e.g. 'Ready, steady, slide');
- Carry out the move while ensuring that it is controlled and smooth;
- Use transfer of body weight to achieve a move and not a stationery stance with pulling or pushing using the arms;
- Ensure the individual is left in a safe and comfortable position;
- Review the manoeuvre, checking that the move went as expected and if it did not report and record your concerns.

Fig. 28 Walk Stance

Fig. 29 Power Squat

Fig. 30 High Half-Kneel Stance

Appropriate holds

Inappropriate holds and grips can be harmful, causing pain, discomfort or bruising. The following techniques can be used to eliminate or reduce the risk of harm from inappropriate holds and grips:

- Where possible use an open palm, keeping fingers and thumb together, and place the palm on to the individual (see Figures 31 and 32).

Fig. 31

Fig. 32

- Where an individual's hand needs to be held then use a palm to palm hold without locking thumbs (see Figure 33);
- If someone has a weak arm it can be supported under the forearm, do not support directly under the elbow as you may apply undue pressure to the shoulder joint (see Figure 34);

Fig. 33

Fig. 34

Fig. 35

Fig. 36

- **Long arm support gives more control** (see Figure 35);
- **The central key point gives lighter, touch-prompt assistance** (see Figure 36);
- **Support in front of the shoulder can help an individual stabilise and balance when standing** (see Figure 37).

Fig. 37

UNIT 13
Basic Stance

If the stance described below and its associated principles are applied during all manual handling activities the stresses to your back will be significantly reduced with obvious resulting benefits.

The Stance

Face Forward – this will align the back by having feet, hips, shoulders and head pointing the same way.

Walk Stance – this will create a stable base over which you can transfer your weight.

Flex – moderate flexion through your whole body.

Transfer Body Weight – allow your weight to travel over your base in order to move a load.

When you need a lower-level stance, then a high, half-kneel stance can be used as this still allows for the application of the principles of Face Forward, Walk Stance, Flex and Transfer Body Weight. Protect your knees by using a kneel pad when on hard surfaces.

Fig. 38 Walk Stance

Fig. 39 Power Squat

Fig. 40 High Half-Kneel Stance

Face Forward does not necessarily mean that you will move in a forward direction, as sometimes you will be moving backwards while your body is in the Face Forward position.

Basic stance for pulling and pushing:

- Adopt the basic stance above;
- Let your body weight and leg muscles do the work;
- Keep your elbows close to your side and slightly bent;
- Once the load is moving continue by pushing through your feet;
- A walking upright position should be adopted as soon as possible.

For pulling: start with your weight on your front foot and transfer your weight on to your back foot as you control the load. Leaning your weight in this way allows your body weight to do most of the work rather than pulling with your arms as this could strain the neck and shoulders (see Figure 41).

For pushing: start with your weight on your back foot and transfer your weight on to your front foot as you control the load (i.e., the reverse of the pulling action) (see Figure 42).

This technique can be adopted for any pull or push action such as pushing a hoist or pulling on a slide sheet.

Fig. 41

Fig. 42

Pushing or pulling as a team

Using the techniques described above:

- Adjust the height of the work surface to a comfortable working height before starting. (If a team member has a significant height difference from the rest of the team then it may be better for them not to participate);
- One person should plan, coordinate and give the commands for the move;
- Several small moves are often more desirable than trying to complete the whole movement in one go;
- Involve as many people as the move requires (i.e. ASSESS).

Fig. 43

Research has demonstrated that moderate flexion throughout the whole body, including the back, is more beneficial than focusing solely on flexing the knees (as when you bend your knees and keep your back straight (the alignment of the back is better described as 'spine in line maintaining its natural curves')).

A power squat is preferable to a straight up and down movement as it uses moderate flexion and allows the person moving to move forward on to his or her front foot as he or she stands, which allows a natural movement pattern.

For the manual handling of people this stance can be adopted to facilitate all the movement techniques required. Once the stance and associated movement patterns are learned it can become the automatic position adopted by the employee, allowing the employee to focus attention on the individual requiring assistance rather than on himself or herself. Whilst other stances are not necessarily incorrect, the fewer that have to be learnt the quicker the basic stance can be assimilated and so if this basic stance enables employees to adopt a good position while assisting individuals to move, why learn any others?

Along with the stance other principles need to be considered and applied where relevant; these are:

- Assessing the situation using TILEO;
- Keeping the load as close to the body as possible;
- Considering the centre of gravity of the load in relation to your own;
- Establishing a suitable hold for appropriate control and support;
- Using feet to change direction;
- Giving clear instruction if are involved;
- Ensuring the movement is controlled and smooth, and not sudden and jerky.

UNIT 14
General Use of Equipment

Equipment Used in Manual Handling

Equipment can be used to reduce the risks involved in manual handling operations provided that:

a) A risk assessment has been undertaken.
b) Employees have been appropriately trained in the equipment's use.
c) The equipment is safe to use, properly maintained and clean.

When using equipment account must also be taken of the individual's tissue viability and infection control.

All equipment must be visually inspected by employees prior to use. If anything is found to be defective the equipment must immediately be withdrawn from service and the defect brought to the attention of an appropriate person.

Key points for Manual Handling Equipment

All equipment should:

- Be appropriate for the task, employee, individual and environment;
- Be assessed as suitable for the task, employee, individual and environment (and this should be recorded on the individual's handling assessment);
- Be properly maintained and serviced;
- Be visually checked and confirmed as safe and in a good state of repair prior to every use;
- Be removed from use if found faulty in any way and reported as such;
- Only be used by employees who have received training in its use and the risks associated with its use;
- Be used in accordance with the manufacturer's instructions;
- Be used only following a manual handling assessment of the individual's needs which has also taken account of:
  - Safe working load;
  - Tissue viability;
  - Pressure area care;
  - Infection control.

All equipment is useful in the correctly assessed circumstances AND
All equipment is hazardous if used inappropriately or when incorrectly assessed.

Pushing equipment

When pushing equipment always take the following steps:

1. Check equipment is suitable for the move and is safe and clean to use.
2. Check brakes work and wheels are running smoothly.
3. Take a comfortable hold – preferably with two hands in front of you with elbows slightly bent (a hoist can be held at any point on the handle, allowing you to push or pull with your body weight without twisting) (see Figures 44 and 45);
4. Adopt the basic push stance with your weight on the back foot.
5. Lean your weight into the direction of the move (see Figure 46) and avoid twisting as you move; several small moves backwards and forwards to reposition the wheels will assist the movement.
6. Once the move is initiated keep the movement going by coming up into a walk stance and pushing through your feet as you walk (see Figure 44).
7. In order to turn set the wheels in the direction of the movement (see Figures 47 and 48 on the next page).

Fig. 44

Fig. 45

Fig. 46

Fig. 47

Fig. 48

Pulling equipment

As for pushing but:

1. Adopt the basic pull stance with your weight on the front foot.
2. Lean your weight into the direction of the move (see Figure 49).
3. Once the move is initiated keep the movement going by coming up into a walk stance and pushing through your feet as you walk (be aware of what is around you if you are going backwards).

Fig. 49

Management of a Profile Bed

When the head section of a profile bed is raised the individual may be 'pushed' down the bed. This will result in the individual being left in a position that is uncomfortable and in which it will be difficult for them to breathe or drink; their tissue viability will also be compromised by friction and shearing as they are pushed down the bed.

The main cause of an individual being pushed down the bed is the contact of his or her back with the bed.

Fig. 50

Fig. 51

To prevent this, the following steps should be taken:

- Place a small slide sheet behind the individual's back or have an in-bed slide system in situ;
- Raise the head section of the profile bed until the individual is at an angle of about 45°.Raise the knee section to a comfortable position (see Figure 50);
- Complete raising the head section until the individual is comfortable;
- Once the individual's back has slid up the back rest as the profile is raised, remove the slide sheet;
- Ensure the individual is comfortable.

(Occasionally some assistance may be necessary: if so, simply adjust the slide sheet in the direction of the top of the bed (see Figure 51).)

Alternatively, if no slide sheet is available:

- As the back rest is raised, ask the individual to rock his or her shoulders one at a time thus lifting them clear of the bed and allowing their body to move up the bed (see Figure 52).

Fig. 52

Slide gloves

Slide gloves (see Figure 53) can be used as an aid when a slide sheet is being used for small movements and adjustments such as:

- Moving feet across the bed (in this case, place your hand with the slide glove on under the individual's feet). Do not lift the feet, but have your hand resting on the bed and the individual's feet resting on your gloved hand and then slide the feet into position;
- Inserting a sling, to ease and smooth the sling into place (see Figure 54).

Fig. 53

Fig. 54

Fig. 55

Transfer or handling belts

Transfer belts should:

- Be used with caution by properly trained employees;
- Be assessed as suitable for the individual and the activity;
- Fit closely around the waist area but not be too tight;
- Be held by taking hold of a loop (but do not put your hand through the loop) (see Figure 55);
- NOT be used to lift an individual, for example, up from a chair or the floor;
- NOT be used to hold an individual up when standing if they are falling.

UNIT 15
Use of Hoists and Slings

Hoists

A hoist is a device that mechanically lifts an individual. There are many types of hoist, but they can be divided for convenience into two main categories:

Active hoists – standing these hoists are designed to help an individual stand or move; as such their use presupposes some functional capacity in the individual, including in particular the capacity to bear weight and the ability to balance while standing (see Figure 56).

Passive hoists – these, when used with an appropriate sling, may be employed to lift an individual who has no ability to stand. They will be either mobile or overhead track hoists (see Figure 57).

Fig. 56

Fig. 57

The spreader bar

Passive hoists come in a range of spreader types which either allow for a loop-sling attachment or a clip attachment (see Figure 58). The spreader may be in a 'coathanger' style, a four point or a 'wishbone' style. It is important that the sling chosen is compatible with the hoist and spreader.

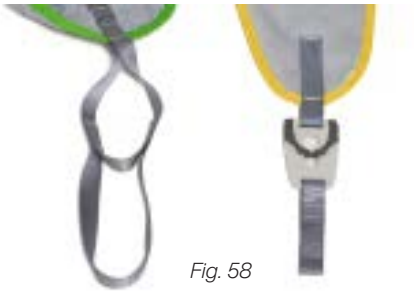


Fig. 58

Slings

It is critical that the individual to be moved is assessed by a competent person who can decide on both the style and size of sling required. If there are options for positioning or a choice of loops, then this also should be assessed. Once the correct choice has been made, it should be recorded on the individual's manual handling plan as part of the system of work for employees to follow.

Standing aid hoist slings

Standard standing aid hoist slings provide support behind the individual's back and are used to bring the individual up into a standing position (see Figure 59).

Transport slings give some support to the individual's legs, allowing the individual to half sit in the sling, and give more support to the individual who has erratic standing ability. Nevertheless, the individual will still be using some functional capacity in his or her legs and upper body.

Fig. 60

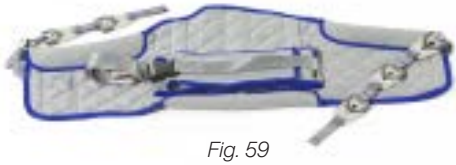


Fig. 59

Fig. 61

Passive hoist slings

There are three common shapes or styles of sling which will suit many individuals who need hoisting.

Toilet/Access sling: these give good access for the removal of clothing for toilet and hygiene purposes. However, they do not give sufficient support for some individuals and careful assessment is required. These slings are unlikely to be suitable for individuals with poor cognition, low tone, spasm or a tendency to seizures and some individuals find they cause discomfort behind the thighs (see Figures 60 and 61).

Fig. 62

Fig. 63

Quickfit/Universal style: these are easy to fit and give more support than an access sling but less than a deluxe version (see Figure 62). Some individuals will need head support during hoisting and if this is the case, a sling with head support should be used; alternatively a neck roll may be suitable.

Deluxe/divided leg hammock style: these give greater support and comfort during the lift and can also have a head support if required (see Figure 63).

Specialist styles: some individuals require specialised support in order to be lifted safely and comfortably. Examples of this would be:

- Amputee slings;
- Hammock slings (with or without a commode aperture);
- Standing harness (these are often seen in therapy settings and can be used to support an individual stand who has difficulty bearing weight).

Standard Elements for the Use of Hoists and Slings

Ensure the hoist and sling have been assessed as suitable for:

- The task to be undertaken (e.g. bathing, lifts from the floor etc);
- The individual (size, style, material, support given, etc);
- The load (i.e. a safe working load);
- The working environment (overhead tracking gantry/mobile);
- Use with other equipment (i.e. given the other equipment present is the individual accessible for the hoist and sling and is the hoist and sling compatible with this equipment);
- The employee (ease of use, ease of pushing (flooring, caster type, handles)).

Key points for choosing a hoist:

- Does it meet the needs of the individual?
- Is it appropriate for the tasks required?
- Is it appropriate for the employee/s?
- Is it appropriate for the environment?
- Does it need to support the full or partial body weight of the individual?
- Is the individual's weight within the safe capacity/working load of the hoist?
- Is it in good working order and correctly maintained?

REPORT any equipment that is found to be faulty or that malfunctions while being used. **REMOVE** such equipment from use or put a notice on it that indicates that it is faulty.

Hoist and Sling: Inspection Before Use

The checklist below is intended as a guide and there may be additional features of the employee's particular hoist and sling which should also be inspected – check with the product manufacturer.

As well as being inspected by the employee, the hoist and sling must be properly maintained and formally inspected every six months or in compliance with the manufacturer's manual.

Hoist

Check that:

- There is no missing hardware or broken pieces;
- The battery is charged;
- The base opens and closes easily;
- There is no looseness in casters and bolts;
- The casters swivel and roll smoothly;
- The casters are clean (e.g. no dust or hair impedes their action);
- There are no cracks in or deflections of the mast and/or boom and they are not loose;
- The boom is centred properly between the base legs;
- There is no wear on or damage to the spreader or swivel bar bolts and sling hooks;
- There is no wear on or damage to the spreader or swivel bar joint with the boom;
- The hoist is bearing a safe working load.

Sling

Check that:

- There are no signs of wear or deterioration in the sling material;
- There is no wear in the sling straps, d-rings or plastic clips for attachment to the hoist spreader;
- There are no defects or loose threads in the stitched areas;
- The sling has been cleaned in accordance with the manufacturer's instructions;
- Any labelling is clear and legible;
- The sling is bearing a safe working load and in particular that the size of the load does not exceed safety limits;
- The sling is compatible with the hoist.

Key points for using hoists

Ensure the individual's specific handling plan is read and followed.
And check the hoist for wear and tear and cleanliness.
If in doubt: do not use and report your doubts.

- Follow the manufacturer's instructions and the individual's handling plan;
- Plan the situation;
- Use the correct type and size of sling (i.e. the type specified in the individual's handling plan and recommended by the manufacturer);
- Do not combine one manufacturer's sling with another manufacturer's hoist without prior arrangement or a compatibility statement;
- Have as many employees present as the situation requires (e.g. commonly two employees when using a mobile hoist but often only one employee when using an overhead hoist). Assess each individual and situation and then record your decision on the individual's handling plan;
- Make sure that the individual is adequately supervised and supported during the transfer. Consider having an employee stay by the individual's side, or hold the sling, during the transfer while a second employee moves the hoist (see Figure 64);
- Remember that the hoist need not be brought directly towards the individual but can be brought from a slightly oblique angle (see Figure 65), which will be less intimidating for the individual and leaves space in front of him or her for the employee to apply the sling and maintain good communication with the individual;

Fig. 64

Fig. 65

- Remember that an oblique approach when hoisting from the floor will bring the spreader to an optimum position. Ensure that the individual has his or her head on a pillow and an employee beside him or her (see Figure 66);
- When approaching a seated individual, either keep the spreader bar as low as possible (ideally below the individual's shoulder level) or above his or her head and then lowering before attaching the sling (see Figure 65 on the previous page);
- Transfer the individual the shortest distance possible and where a significant distance is unavoidable, transfer the individual to a wheelchair and rehoist him or her at the arrival point;
- When hoisting from a profile bed lift the individual from a sitting position where possible (see Figure 67 on the next page) but if the individual must be lifted from a lying position ensure he or she receives suitable head support from the sling;
- Use your body weight to slowly push and pull the hoist; lean your weight slowly in the direction of your movement. Remember fast pulling or pushing will significantly raise the effort required from you;

Fig. 66

Fig. 67

- To turn the hoist round always hold the handle but remember you can pull it towards you or push it away from the side rather than going behind the mast and twisting it round (see chapter on General Use of Equipment Figures 46 and 49);
- Always set the wheels in the direction of movement before changing the direction of the hoist (i.e. parallel wheels are set for movement straight forward or back; wheels are set as if in a circle for turning (see chapter on General Use of Equipment Figures 47 and 48);
- Remember, in general, the brakes are NOT applied for raising or lowering an individual from a chair or bed; the final decision whether or not to apply the brakes will come from a specific assessment of the situation;
- NEVER pull the sling and individual out of the hoist's base or centre of gravity during a lift or lowering as this could destablilise the hoist.

Transfer from chair, bed or the floor using a hoist

- Collect the correct sling and check it is clean and safe to use;
- Check the hoist is in good working order and the battery is charged;
- Communicate throughout the transfer;
- Maintain dignity and privacy during the move.

- **Apply the sling** (a sling with head support should be used when lifting from a lying position);
- **Widen the base of the hoist and position the hoist correctly in relation to the individual** (see Figures 68, 69 and 70);

Fig. 68

Fig. 69

Fig. 70

- Attach the sling to the spreader bar (see Figure 71);
- Check the brakes are off;
- Raise the individual until they are clear of the surface;
- Close the base of the hoist;
- Ensure the individual is comfortable and secure (this may require an employee to be by his or her side during the transfer and even holding the sling) (see Figure 16 on page 31 and Figure 67 on page 68);

Fig. 71

- Move the hoist smoothly and slowly to the destination, opening the base as required;
- Ensure the individual is correctly positioned over the destination and lower;
- Detach the sling from the spreader bar;
- Move the hoist away from the individual;
- Remove the sling by turning the leg pieces under themselves and peeling out (see Figures 72 and 73).

Fig. 72

Fig. 73

Inserting a sling in a chair

Ensure that the individual's specific individual handling plan has been read and is followed. Check the sling for wear and tear and cleanliness: if in doubt do not use and report.

- Ask the individual to lean forward slightly; if they cannot do this a second employee could support the individual's forward movement of the shoulders;
- Slide the sling down behind the individual's back (see Figure 74) until the base edge meets the seat of the chair. (It is important to get the centre of the sling right down or else the sling will not pass around the bottom and support the individual effectively. This can be made easier by holding the leg part of the sling firmly with one hand creating some resistance for the other hand to push against (see Figure 75) as it slides down the back: a slide glove will make this easier);

Fig. 74

Fig. 75

- Ease the side of the sling down by each hip;
- Where possible ask the individual to lean to one side;
- Adopt a comfortable position in front of the individual and, taking care not to stoop, hold the leg piece firmly in one hand and pull it forward as the other hand eases the sling under the individual's hip and buttock (see Figure 76 on the next page);
- Repeat for the other hip;

Fig. 76

Fig. 77

Fig. 78

- **Raise the individual's leg by placing the foot on your thigh** (placing a towel or paper sheet on your leg) **and pass the sling under the thigh** (see Figure 77);
- **Repeat on the other side;**
- **Ensure the leg pieces are placed according to the sling instructions; however, commonly one leg strap is passed through the other so that the leg pieces cannot separate during the lift. Alternatively there may be a strap on one of the leg pieces which allows the other leg piece to be passed through** (see Figure 78). **The leg pieces should be just behind the knee once fitted.**

Inserting a sling on the bed or floor

Ensure the individual's specific handling plan has been read and is followed. Check the sling for wear and tear and cleanliness: if in doubt do not use and report.

The application of a sling should not require the individual to be turned on to his or her side more than once: additional turns can be stressful and invasive as well as requiring the employee to undertake more manual handling.

If the individual can tolerate side lying unsupported then a single employee can apply the sling; if not a second employee should be positioned on the opposite side of the individual. If a single employee is applying the sling on a bed then it may be necessary to raise a safety/ bed rail on the opposite side of the bed to ensure safety during the task.

- Hold the sling with the outside/labels facing the employee (do not lay the sling on the floor or bed at this stage) (see Figure 79);
- Lay the sling over the individual at the correctly measured position (e.g. lower edge at coccyx);
- Allow the remaining sling material to lie flat across the floor or bed surface;
- Take hold of the edge of the sling that is lying on the floor or bed surface and roll it up so that the roll is on top of the sling (see Figure 80);
- Find the midpoint of the sling at the neck edge and find the individual's cervical vertebrae and place the two points together;

Fig. 79

Fig. 80

Fig. 81

Fig. 82

- Hold the sling in this position and smooth the excess material over the individual's shoulder, then tuck the roll under the individual's shoulder so that it cannot unroll (see Figure 81);
- Pass the shoulder strap under the pillow to facilitate removal later;
- Find the midpoint of the sling at the bottom edge and place in line with the individual's buttock crease;
- Hold the sling in position with one hand; smooth any excess material over the individual and tuck the roll under the individual's hip to prevent it unrolling (see Figure 82). Place the leg straps as close to the leg as possible;
- Ask the individual to roll on to his or her back, assisting if necessary;
- Take hold of the shoulder strap from under the pillow and draw the sling through. With the other hand palm upwards, find the edge of the roll and unroll as the sling is drawn through (see Figure 83);
- Continue to draw the sling through until all is lying flat on the bed;
- Place the leg pieces under the individual's legs ready for attachment to the hoist.

Fig. 83

Fig. 84

Inserting a sling with slide sheets for an individual who cannot roll

- Insert a pair of flat slide sheets under the individual (see chapter Use of Slide Sheets);
- Lay the sling alongside the individual's side;
- Pass the shoulder strap under the pillow between the two slide sheets;
- Pass the leg strap under the knee and ease the sling across the bed as far as is easily possible;
- Ease the shoulder section of the sling between the two slide sheets until it is just under the nearer shoulder (see Figure 84);
- Either raise a safety bed rail and go round to the other side of the bed or, if a second employee is present, he or she can proceed to draw the sling through gently;
- Using the shoulder and leg straps, gradually ease the sling under the individual until it is in the right position;

Fig. 85

Fig. 86

- **Check the sling is in the correct position** (if a leg piece is held out to the side of the bed the edge will be in line with the base of the sling) (see Figure 85);
- **If the sling needs to be brought further down the body, do this by holding the leg piece and pulling in a diagonal direction down the bed** (see Figure 86);
- **Repeat from the other side;**
- **Once the sling is correctly fitted then remove the slide sheets** (see Figure 87);
- **Elevate the back of the bed so that the individual is hoisted from a sitting position** (see Figure 88). **If the individual has to be hoisted from a lying position he or she should have a sling with head support or a neck roll fitted.**

If the individual is sitting up in bed, the sling can be applied in the same way as for sitting in a chair.

Fig. 87

Fig. 88

Positions for hoisting individuals

Every individual should be assessed for his or her optimum transfer position. The risks to the individual during a transfer can be reduced by ensuring he or she is not in too upright a position during movement and that additionally an employee is close by at all times to reduce anxiety and excessive movement. The employee can hold the sling to stabilise the individual during the transfer.

Fig. 89

Fig. 90

Fig. 91

Fig. 92

A semi-reclined position (see Figure 89 on the previous page) is often the position of choice for transfers as it takes the pressure off the back of the legs and may be more comfortable; additionally it is harder for the individual to tip forward or sideways out of the sling.

A reclined position spreads the weight across the back of the individual and again reduces pressure on the back of the legs. The individual will need head support on the sling or a neck roll. This position is often used for an amputee or hammock style slings.

Upright positions are the most vulnerable as the individual may tip forward or sideways out of the sling, particularly if there is any swinging during the transfer. Swinging can be reduced by an employee holding the sling and the individual during the move. An upright position may be desirable for positioning the individual well in his or her chair but this can be achieved after the transfer and once the individual is over the seat, using the following approach:

- Lower the individual on to the seating;
- Ensure the individual cannot slip forward (see Figure 90);
- Attach a short loop from the shoulder strap on to the spreader (it is not necessary to remove the initial loop) (see Figures 91 and 92);
- Raise the individual until they are just clear of the seating, guide to the back of the chair and immediately lower again on to the chair (see Figure 93) (the employee can assist by pushing on the sling as the individual is lowered).

Fig. 93

To remove a sling

From a seated position:

- Turn the leg strap under itself and peel away from the individual's leg;
- Repeat for the other leg strap (see Figure 94);
- Lean the individual forward and slide the sling up and out.

From a lying position:

- Roll one edge of the sling close to the individual's body with the roll next to the bed;
- Turn the individual to lie on his or her side and draw the sling through and out.

Fig. 94

Using a standing aid hoist

Ensure the individual's specific handling plan has been read and is followed. Check the hoist and sling for wear and tear and cleanliness: if in doubt do not use and report. The individual should have some weight-bearing ability and standing balance as this hoist is for an 'active' and not a 'passive' lift.

- One or two employees may be needed, depending on the individual's needs, and this should be recorded on the individual's handling plan;
- If two employees are present one must stay by the individual at all times and ensure his or her comfort and safety;
- Apply the hoist sling behind the individual's back;
- Open the base of the hoist;
- Bring the hoist in towards the individual and ask him or her to place his or her feet on the footplate (see Figure 95);
- Brakes can be applied, if required, at this stage and during the stand but should remain off when lowering the individual back into a sitting position;
- Attach the assessed loop on to the spreader bar;

Fig. 95

- Ask the individual to hold on to the handle position of the hoist and to push through the feet during the stand;
- Raise the individual to a standing position (see Figure 96); do not stop with the individual in a squat position as this is very hard for them to maintain and can cause discomfort;
- Check the hoist sling has not slid up into the individual's axilla. (There should be room to place a couple of fingers between the top edge of the sling and the individual's axilla (see Figure 97). If the sling is right up in the axilla then report and ask for a reassessment as it could be an indication that the individual is not weight-bearing sufficiently and they may require a passive lifting hoist);
- Move the hoist away from the furniture and close the base of the hoist;
- Transfer the individual to the destination position (this should be a short distance transfer only unless a transport sling is being used);
- Open the base, position the individual over the destination, check brakes are off and lower the individual;
- Detach the sling and remove both the hoist and sling;
- Ensure the individual is safe and comfortable.

Fig. 96

Fig. 97

UNIT 16
Use of Slide Sheets

Standard Elements

- Check that the slide sheet has been assessed as suitable for the individual's needs, that it is clean and safe to use and that you have been trained in its use;
- Check that the slide sheet covers the whole bed (see Figure 98) or is long enough to be placed under all the contact points of the person and allows for the distance of the move (see Figure 99); also consider using two smaller slide sheets (see Figure 100);

Fig. 98

Fig. 99

- If the individual's head is on a pillow, place the slide sheet under the pillow;
- Adjust the bed to a height suitable for the activity and the height of the employees;
- Insert slide sheet under all contact points of the individual;

Fig. 100

Fig. 101

Fig. 102

- To insert slide sheets roll up and place the roll next to the bed (see Figure 101) so that it can easily be brought through by placing your hand palm up under the roll and pulling through (see Figure 102). (This method allows the individual to have to roll into side lying only once);
- When using, hold the top sheet, or top surface of the sheet, only, either using handles or holding the sheet (see Figures 103 and 104);
- Hold at a significant contact point (i.e. shoulder/hip or both).
- Keep wrist in a neutral position if possible with hands in front or close to the body;
- To complete a move, stand in the basic stance along the line of the intended move (i.e. obliquely by looking at the bottom opposite corner of the bed or facing down or across the bed, depending on which direction you wish to move). Make sure you are:
  - Flexed;
  - Face forward (i.e. spine in line);
  - In walk stance ('tug of war' position);
  - With weight on the front foot.

Fig. 103

Fig. 104

- Complete the move by transferring weight from your front foot on to your back foot as you bring the individual towards you;
- Make sure your move is smooth, controlled and slow;
- Consider whether two short movements are preferable to trying to complete the move in one movement;
- Remove the slide sheet by turning one corner underneath the slide sheet and drawing slowly out, keeping the slide sheet as flat as possible rather than bunching it as this can cause discomfort (see Figure 105).

Fig. 105

For all the moves ensure the following have been considered:

The environment/equipment

- Adjust the bed to an appropriate working height;
- Ensure the brakes on the bed are on;
- Check the slide sheet is the right size and safe and clean to use.

The individual

- Explain the process to the individual and seek his or her consent to proceed;
- Ensure you are working in accordance with the individual's manual handling plan;
- Ensure the individual lies flat with one pillow between him or her and the slide sheet, or no pillow as required;
- Ensure all the individual's contact points are on the slide sheet.

Fig. 106

Fig. 107

Inserting slide sheets

These methods can be used for both roller slide sheets and pairs of flat slide sheets.

For an individual who can roll

a) With the individual already in side lying position:

- Roll up approximately a third of the top half of the slide sheet/s (see Figure 106);
- Lay this roll against the individual's back and ease the edge just under the back. Make sure the individual's head is on the slide sheet; if a pillow is in place then the slide sheet should be underneath it (see Figure 107);
- Roll up approximately a third of the remaining slide sheet and smooth just under the hip and well under the legs and feet (see Figure 108);
- Ask or assist the individual to turn on to his or her back;
- With palms up and using your fingers gradually unroll the slide sheet from under the individual (see Figure 109).

Fig. 108

Fig. 109

Fig. 110

Fig. 111

b) With person lying flat:

- Roll up approximately two thirds of the slide sheet/s (it is easier to work with the head-end first and then the lower end, rather than trying to do it all in one go);
- Lay this roll against the individual's side and ease the edge just under the head, back and legs (see Figure 110). Make sure the individual's head is on the slide sheet; if a pillow is in place then the slide sheet should be underneath it;
- Ask the individual to lie on his or her side, or assist him or her to do so;
- With palms up and using your fingers gradually unroll the slide sheet from under the individual (see Figure 111).

Fig. 112

For an individual who cannot roll and with two employees:

- Each employee take hold of one side of the slide sheet;
- Together roll a panel of slide sheet and continue until almost all of the slide sheet is rolled (see Figure 112 on the previous page);
- Place the rolled slide sheet under the individual's pillow, ensuring the rolled panel is next to the bed;
- Standing on either side of the bed, adopt the basic stance facing the head of the bed;
- With the nearside hands and palms up, grasp the panel (see Figure 113) and together pull the slide sheet down the bed by unrolling the panel in sections (see Figure 114). Keep tension across the bed to ensure the slide sheet stays flat.

Fig. 113

Fig. 114

Removing slide sheets

- Find one corner of the slide sheet/s;
- Pass this corner under the slide sheet and draw the slide sheet across, up and out from under the individual (see Figure 115);
- For comfort keep the slide sheet flat; do not 'bunch it up' as it is drawn out;
- Remove flat sheets either singly or together;
- Use this method for all slide sheets.

Fig. 115

Repositioning A Person In Bed

Moving Up The Bed

Ideally for this move the bed should be flat. The individual should lie flat with a pillow between him or her and the slide sheet, although this is not essential (a pillow controls the head and neck during the move and can be more comfortable; it also reduces the noise of the slide sheet against the individual's head). It is acceptable for the individual to be in a semi-reclined position but the bed angle must not exceed approximately 20° of tilt (see Figure 116). Lowering the head end of the bed (i.e. a reverse Trendelenberg position) can be used to gravity assist the slide but the individual's medical condition must have been assessed beforehand as suitable for this move and the bed tilt should not exceed 30°. This move generally requires two employees although one employee can execute the move as long as the individual's capability has been assessed and the individual's weight is not significantly more than that of the employee making the moving.

Fig. 116

Assist as follows:

- Insert the slide sheet under the individual, ensuring all points of contact are on the slide sheet (i.e. under head, trunk and feet (an in-bed sliding and repositioning system can be used, thus eliminating the need for slide sheets to be inserted));
- Stand on either side of the bed, at the head end (the employee/s can stand behind the pillow at the top of the bed if there is no headboard);
- Face the opposite bottom corner of the bed (see Figure 117 on the next page) (oblique position) or straight down the bed (see Figure 118 on the next page);
- Adopt the basic stance of feet slightly apart and one foot in advance of the other;

Fig. 117

Fig. 118

- Hold the top layer of slide sheet by the individual's shoulder or shoulder and hip using either the handles or gripping the top slide sheet (see Figure 119);
- Hold your hand/s in front of you with relaxed shoulder and elbow;
- Ensure the slide sheet is taut before you move;
- Nominate the employee who will give the commands (the 'lead employee');
- The lead employee says clearly ' Ready, steady, slide';
- On the command 'slide' the employees transfer their body weight from front foot (see Figure 120) to back foot (see Figure 121) leaning their weight to execute the move and not pulling using the arms alone;

Fig. 119

Fig. 120

- Make sure the move is controlled, smooth and gentle, and not jerky and/or fast;
- If necessary repeat the move until the individual is in the required position (several small moves are preferable to one long move);
- Ensure the individual is safe and comfortable, and use correctly fitted safe sides if necessary;
- Remove the slide sheet, or if you are using a bed system leave this in place.

Fig. 121

Assisting as a single employee

Generally when a single employee is working alone the individual to be moved should be lying on an in-situ, sliding bed system rather than the move being executed by using inserted sliding sheets. The employee should proceed as follows:

- Raise a safe side on the opposite side of the bed;
- Stand at the head end of the bed (the employee can stand behind the pillow at the top of the bed if there is no headboard);
- Face the opposite bottom corner of the bed (the oblique position) (see Figure 122);
- Adopt the basic stance of feet slightly apart and one foot in advance of the other;
- Hold the top layer of the slide sheet by the individual's shoulder or shoulder and hip using either the handles or gripping the top slide sheet (see Figure 123 on the next page);
- Hold your hand/s in front of you with relaxed shoulder and elbow;
- Ensure the slide sheet is taut before you move;

Fig. 122

Fig. 123

Fig. 124

- As you slide the sheet transfer your body weight from front foot (see Figure 123) to back foot (see Figure 124) leaning your weight to execute the move and not pulling using your arms alone;
- Make sure the move is controlled, smooth and gentle, and not jerky and/or fast;
- If necessary repeat the move until the individual is in the required position (several small moves are preferable to one long move);
- As when working from one side of the bed the individual will have moved up and across the bed, you must go to the other side of the bed and repeat the move to centre the individual;
- Ensure the individual is safe and comfortable; use correctly fitted safe sides if necessary;
- Remove the slide sheet, or if you are using a bed system leave this in place.

Repositioning Into The Centre Of The Bed

When an individual is turned on to his or her side in the bed he or she will end up close to the edge of the bed and will need to be repositioned towards the centre. This is best achieved with a slide sheet as it reduces friction and the effort necessary whilst protecting tissue viability.

This method can also be used to move the individual closer to the edge during personal care thus reducing the distance an employee must reach across the bed (see Figure 125).

Fig. 125

Assist as follows

- Employees stand on each side of the bed, or a single employee raises a bed rail on the opposite side of the bed for safety;
- Insert the slide sheet under the individual between all points of contact and the bed surface. If the individual can move his or her own head and feet then the slide sheet can be inserted just under the shoulders and hips;
- Get the individual to lie on his or her back until he or she is moved across the bed;
- One employee stand at the side of the bed, adopting the basic stance, facing across the bed;

Fig. 126

Fig. 127

- Holding the top layer of the slide sheet close to the bed and at the individual's shoulder and hip (see Figure 126) the employee transfers his or her weight from the front foot on to his or her back foot, drawing the individual across the bed (see Figure 127);
- Ask the individual to face the direction in which he or she is turning with his or her arm across the body and a leg bent ready to turn (see Figure 128);

Fig. 128

Fig. 129

- Stand again with weight on the front foot, holding the slide sheet with hands slightly raised from the bed (do not lift the individual) and again transfer weight on to the back foot (see Figure 129 on the previous page);
- The slide sheet will facilitate the turn, but in some instances it will help if the second employee assists the individual to roll on to his or her side;
- Consider further adjustment of the hips as this may leave the individual in a better position on the bed; if executing this move, use the same action of transferring body weight but this time hold the slide sheet close to the individual's hip;
- Ensure the individual is in a safe position in the bed and if he or she is not adjust by repeating the slide manoeuvre;
- Remove the slide sheet;
- Review the success of the manoeuvre and reassess as necessary.

Lateral Transfer

There are now devices which can execute a lateral transfer mechanically, thus eliminating the need for a manual handling technique. However, if these are not available then the same technique as for sliding up the bed and repositioning can be used for lateral transfer.
There are a wide range of assistive devices which can execute lateral transfer, but in any case the stance and action required will be as described below. The aid/aids used must ensure that any gap is bridged with a supporting surface (e.g. a transfer board) and that the move can be executed with the friction reduction of a slide system. Single-use slide sheets, specifically designed for lateral transfer, are now available (see following photographs).

Assist as follows:

- Insert the sliding sheet under the individual;
- Introduce the transfer board under the individual between the slide sheet and the bed (the individual's head must be on the board and sufficient board available to 'bridge' any gap);
- Turn the individual on to his or her back (usually a pillow should be used to support the neck and head);
- Bring the destination surface close to the bed and ensure all brakes are on;
- Ensure that the destination surface is slightly lower than the surface the individual is leaving;
- Identify the number of employees required (assessment of every situation is required, but commonly a minimum of three employees (and sometimes more) will be needed for high dependency situations where the head and/or feet of the individual need support);
- All the employees adopt the basic stance:
  - If pushing start with weight on the back foot;
  - If pulling take hold of the slide sheet at appropriate points to control the whole body of the individual and start with the weight on the front foot (see Figure 130 on the next page);

Fig. 130

Fig. 131

- Nominate one employee to lead the move and give the command 'Ready, steady, slide';
- All employees transfer their weight in the direction of the movement, bringing the individual to the edge of the bed (see Figure 131);
- All employees move back into the start position and regather the slide sheet (see Figure 132);
- Repeat the move to bring the individual across and on to the destination surface (the employee pushing will stop before he or she overreaches) (see Figure 133);

Fig. 132

Fig. 133

- Remove the transfer aids and ensure the individual is safe and comfortable.

UNIT 17
Encouraging Independent Mobility

Wherever possible an individual should be encouraged to complete any move independently. In order to make this easier the individual should follow the normal movement patterns for the actions described below, so long as they do not have physical limitations which prevent this.

Moving forward in a chair

The individual should:

- Lean forward in the chair;
- Lean over to one side and place their weight on one buttock (see Figure 134);
- Then lift the other buttock clear of the seat and hitch the hip forward as the knee comes across (see Figure 135);
- Repeat the movement with the other hip (see Figure 136).

Fig. 134

Fig. 135

Fig. 136

Moving back in a chair

The individual should:

- Lean forward in the chair;
- Then lean over to one side to place the weight on one buttock;
- Lift the other buttock clear of the seat and hitch the hip backward;
- Repeat the movement with the other hip.

Standing

The individual should:

- Position themselves with their feet flat on the floor and with a stable base (commonly, feet astride and one foot slightly under the body). The individual may need to shuffle forward on the chair or bed in order to achieve this;
- Then, looking ahead and pushing with the arms, either from the mattress or the chair arms, the individual should lead with the head and move forward and up into a standing position (see Figures 137 and 138).

Fig. 137

Fig. 138

Some individuals benefit from rocking slightly back and forth before attempting to stand up, and if a person has difficulty standing from a chair or bed it would be worth considering the benefits of raising the furniture to a more suitable height.

Sitting

The individual should:

- Stand close to the chair or bed and be able to feel the edge with the back of the legs;
- Then reach back and down to position the individual with his or her bottom leading the move (see Figure 139);
- Keep the head over the feet (e.g. looking at the feet) enabling him or her to control the speed of descent during the move.

Some individuals find it easier to look at the chair and reach down with one hand in order to sit (see Figure 140).

Fig. 139

Fig. 140

Fig. 141

Fig. 142

Getting into bed

- Ensure the height of the bed is appropriate for the individual to sit on the side of the bed with the feet firmly on the floor (the lower the height, the easier it is to sit well on to the bed);
- If a profile back rest is available, raise it for the individual to lean against;
- Sit the individual far enough up the bed to prevent the need for repositioning once the individual is in the bed;
- Side lie the individual, propped on their elbow, and raise legs one at a time on to the bed (see Figure 141);
- Once the individual is on the bed roll over or 'bridge' to achieve the right position.

OR

- If the individual feels able and the edge of the bed is firm, ask him or her to sit at an oblique angle to the bed, lean back on to the pillows or back rest, lift the legs on to the bed and shuffle or 'bridge' to move across the bed (see Figure 142).

Aids which will help:

- Bed rail (see Figure 143);
- Bed sheet with satinised panel to aid movement in bed (see Figure 144);
- Rope ladder (see Figure 145);
- Hand blocks (see Figure 146);
- Profile bed.

Fig. 143

Fig. 144

Fig. 145

Fig. 146

Getting out of bed

- **Ask the individual to turn on to his or her side** (or assist him or her in rolling) (see Figure 147);
- **Ask the individual to draw their knees up and towards the edge of the bed (**this will allow the legs to drop over the edge of the bed naturally as the individual sits up) (see Figure 148);
- **Get the individual to place their upper hand on to the bed and push up on to their elbow;**
- **Ask the individual to slide his or her feet over the edge of the bed** (a slide sheet under the feet will facilitate this, but do not let it fall to the floor where it would become a tripping or slipping hazard);
- **As the feet come off the side of the bed get the individual to push up against the bed or grab rail to bring him or herself into a sitting position** (see Figure 149).

Fig. 147

Fig. 148

Fig. 149

Rolling in bed

Many individuals can turn on to their side if encouraged to. Get them to:

- Look in the direction of the turn;
- Raise the far leg and place the foot against the mattress;
- Push with this foot as he or she reaches across the body in the direction of the turn (see Figures 150 and 151).

Some individuals can turn by pulling themselves over using a bed rail designed for the purpose (however, pulling on 'cot sides' is not recommended).

Fig. 150

Fig. 151

Note: Pulling to roll alters the normal movement action for turning: grasping the lever, the person uses a PULLING (flexion) pattern for the upper body instead of REACHING (extension) in the direction of motion. It is harder to pull when pushing through the foot, so individuals will tend to just use the upper body to pull themselves over.

Moving up the bed

By providing an individual with small handling aids such as hand blocks and small slide sheets he or she may be able to move up the bed (see Figures 152 and 153).

Fig. 152

Fig. 153

Sitting up in bed

Using a rope ladder may enable an individual to support his or her own sitting position as an employee positions pillows (see Figure 154).

Fig. 154

UNIT 18
Methods of Assistance

Methods of Assisting People

The following methods of assisting people are ways, if necessary, to facilitate movement and assist an individual to change position or move from one place to the next. The methods described are not the only ways to move individuals but form a set of core techniques which will be suitable for many situations. It is beyond the scope of a single publication to describe all the possible and suitable methods, and by referring to specific publications on moving and handling you will develop your knowledge and understanding of other practices.

Always encourage individuals to move independently wherever possible, even if they can only help with part of the move.

Assist individuals only when it is required and then only to the level required as this will encourage individuals to do some of the moving themselves.

Before assisting an individual with any move ensure you have read his or her moving and handling plan, which will inform you of what equipment should be used, the number of employees required and any other specific, relevant information regarding the individual.

If equipment is to be used, ensure it is the correct item and the right size; check it for safety and cleanliness; and make sure you are trained in how to use it.

Report any faulty equipment and do not use.

Before commencing any of the methods described below, make sure you have read and are using the information from the chapters on:

- Basic Stance;
- Standard Preparation;
- General use of Equipment.

The points from these chapters will not be reiterated for each method but do still need to be applied.

Assist Forward and Back in the Chair

If assistance is required then proceed as follows:

- Create a stable base using a half-kneel position in front of the individual;
- Ask the individual to lean forward and across to one side so that his or her weight is on one buttock;
- Place an open hand on the hip of the raised buttock;
- Rest the other hand at the knee (see Figure 155 on the next page);

- On the command of 'shuffle' ease the individual's hip across and towards the front of the chair thus facilitating forward movement of the thigh, with the knee coming across to facilitate the move (see Figure 156) and transfer your weight back as you do this so as not to pull with your arms;
- Repeat this sequence with the other leg (see Figure 157);
- Ensure the individual is balanced and safe in the final sitting position;
- Ensure the individual's feet are firmly placed on the floor.

Fig. 155

Fig. 156

Fig. 157

To shuffle back in the chair reverse the process

If assistance is required consider seating the individual on a one-way glide sheet and using a pillow in front of the individual's knees (this can protect him or her from excessive pressure or bruising), then proceed as follows:

- Kneel in front of the individual with one leg raised (half-kneeling) to create a stable base;
- Ask the individual to lean his or her weight forward and to one side;

- Place an open hand at the hip or on the thigh of the individual on the side he or she has lifted off the seat;
- Rest the other hand below the knee (see Figure 158);
- On the command of 'shuffle' transfer your weight forward while also gently pushing the individual back in the chair as he or she hitches back;
- Then get the individual to lean over towards alternate sides and the move is repeated;
- If the individual is sitting on a one-way glide sheet rest a hand below each knee and gently push the individual back;
- Ensure the individual is balanced and safe in the final sitting position;
- Ensure the feet are firmly placed on the floor.

If the individual needs repeated assistance to sit up in the chair then review his or her assessment and consider the factors that could be making him or her slump in the chair. Consider, for example, the effects of excessive fatigue or whether the design of the chair is incorrect for the individual or whether the individual is being left sitting in the chair for an inappropriate duration.

Fig. 158

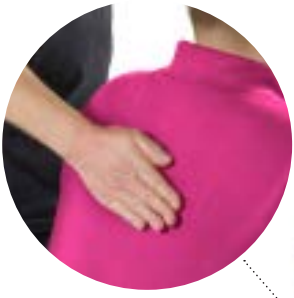


Fig. 160

Fig. 159

Fig. 161

Assist To Stand

If assistance is required then proceed as follows:

- Ensure the individual is wearing appropriate footwear;
- if the individual is able to push ask him or her to place their hands on the arms of the chair or the mattress;
- Then ask the individual to look ahead;
- Check that the individual is able to sit upright unsupported and can raise his or her feet from or lower his or her feet to the floor; if the individual cannot, report the situation or assist with caution;
- Stand beside the individual facing the direction of movement (see Figure 159 on the previous page);
- Adopt the basic stance with the outer foot ahead;
- Adjust height by flexing at the hips and knees;
- Place your hand on the central key point to prompt a standing movement (see Figure 160);
- Stabilise the individual at the end of the move and proceed with a walk.

OR for a less able individual:

- Place your inside forearm in contact with the individual's back (a 'long arm hold'; if the individual is on a bed, turning him or her slightly in one direction gives access for a long arm hold) (see Figure 161 on the previous page and Figure 162);
- Support the individual with your outer hand either at the individual's shoulder or with a palm to palm hold (see Figure 163);

Fig. 162

Fig. 163

Fig. 164

Fig. 165

- Look ahead;
- Say clearly 'Ready, steady, stand' (a gentle rocking motion can be used as the commands are given);
- On the command 'stand' both move together in the direction of movement, travelling forward and then upwards (see Figure 164);
- Transfer your body weight from the back foot to the front foot or step forward with the back foot;
- If the individual is unsteady, ask them to sit down or transfer him or her to another sitting point (see Figure 165).

Alternatively

- Support the individual with a front oblique hold by standing to one side of the individual and transferring your weight from the front foot to the back foot (see Figure 166).

Note:

- The employee may need to change direction in order to progress to a walk, which could make the individual unbalanced;
- The employee must not stand directly in front of the individual as this will block movement and the individual could pull on the employee.

Fig. 166

Fig. 167

Fig. 168

Assist to Walk and Sit

Ideally the individual will be walking independently or using an aid and the employee will be giving verbal or touch-prompt guidance only.

If an individual needs extra support to maintain a standing position, he or she should be provided with an aid such as a walking frame or stick.

Assessments should identify how many employees will be required, but if the individual is unsteady or unpredictable when walking two employees (see Figures 167 and 168) are preferable for optimum support, and it may be advisable to follow the individual with a wheelchair so he or she can sit down if necessary (see Figure 169).

If assistance is required then proceed as follows:

- Assess how far the individual is able to walk before needing to sit down (it may be beneficial to have a chair ready at a half way stage);
- If necessary, ensure the individual has any aid required such as a walking frame;

Fig. 169

Note: Employees must not rest a foot on a walking frame to steady it or allow the individual to pull up on it: the individual should always stand first and then take hold of the frame.

Fig. 170

Fig. 171

Fig. 172

- If the individual is using a walking aid such as a stick make sure it is held in the opposite hand to any injury (e.g. right hand following left hip surgery) and you should walk on the opposite side (the individual's weaker side);
- Make sure you are present and guiding but do not give substantial support to maintain a standing position. If the individual leans continuously on you then stop the walk, sit the individual down in a wheelchair and continue the transfer by this means;
- To guide the individual, place your near arm across the individual's lower back, flat palm in centre or at far pelvis;
- Support at the shoulder or nearside ribs (see Figures 170 and 171).

Alternatively, if the individual needs guiding:

- Take a palm to palm hold (see Figure 172), but do not link thumbs, holding at about hip height, and not higher than waist height;
- Do not let the individual push down on your guiding hand; if the individual does, stop, release the hold, take a shoulder or rib support and continue. If the individual is able to push down he or she might benefit from a walking aid;

- Adopt a stable base with feet slightly apart and the outer foot ahead, ready to step with the person;
- Keep as close to the individual as necessary (usually slightly behind them with your hip close to the individual's pelvis);
- Do not impede the individual's natural step or his or her walking aid;
- Allow the individual to move his or her feet in his or her own time;
- If the individual uses a walking frame then you can help the individual with his or her confidence and balance by walking behind, but slightly to one side to ensure clear vision, placing your hands just above the individual's hips (see Figure 173);
- Unison walking (i.e. stepping with the same foot as the individual) can be helpful for some individuals (e.g. those with dementia (see Figure 174));

Fig. 173

- On arriving at the destination, ensure the individual can see the chair and ask him or her to reach for an arm of it as he or she turns and sits, leading with the bottom;
- If an individual requires additional assistance:
  - Let him or her turn until the back of the legs are in contact with the chair;
  - Ask the individual to reach down with both hands;
  - Steady the individual by stepping in the direction he or she is sitting;
  - Guide the individual's hip back towards the chair but keep the shoulder inclining forward (see Figure 175).

Fig. 174

Fig. 175

Use of a Sitting Transfer Board

This move is predominantly an independent transfer: the employee is present for preparation and completion but gives minimal assistance during the actual transfer.

Note: If a curved board is used it is safest to have the short edge next to the individual's knees so that he or she travels along the short edge. The long edge is thus supported and the board is less likely to tip.

Once you have ensured that the individual feels able to undertake the activity, encourage him or her to move as follows:

- **Place the feet flat on the floor or on a turn disc if required** (placing a turn disc under the individual's feet can be beneficial as it allows the feet to follow through as the individual transfers);
- **Place the board under one buttock** (see Figure 176) **and ensure it is safely on the destination surface** (do not have more than one third of the board unsupported across a gap);
- **Ask the individual to place his or her hand towards the far end of the board and to lean in the same direction** (see Figure 177);
- **When the individual is ready ask him or her to shuffle across, using the hands to push** (the individual should have his or her feet in contact with the floor and push through the feet if he or she is able to do it);
- **Get the individual to transfer his or her weight in the direction of the move;**

Fig. 176

Fig. 177

Fig. 178

Fig. 179

- The individual eases the hips across the board (see Figure 178);
- Ensure the individual is safely on the receiving point (see Figure 179);
- Then remove the board, asking the individual to lean or rock away from the board to facilitate the removal (if in use, remove the turn disc from under the feet);
- If a wheelchair was used and the arm of the wheelchair was removed before the transfer, replace the arm of the wheelchair; also ensure the individual's feet are on the wheelchair footplates.

If the individual requires additional assistance then:

- Establish a stable base half-kneeling in front of the individual;
- Place a hand on the individual's hip furthest from the receiving point and help initiate the move (the individual should not be pushed across (see Figure 180)).

Fig. 180

Note: If significant physical effort is required to assist the individual an alternative method should be considered (e.g. hoisting).

Fig. 181

Fig. 182

Use of a Standing Transport Aid

Assist as follows:

- Check that the handle height and shin pad (if adjustable) are adjusted to the correct height for the individual (see the handling plan);
- Ensure the individual can comprehend and follow instruction and can lift his or her feet off the floor;
- Ensure the individual is wearing suitable footwear;
- Where possible ask the individual to move to the front of the chair in readiness to stand;
- Place the transporter directly in front of the individual;
- Apply the brakes;
- Ask the individual to place his or her feet on to the footplate;
- Ask the individual to move slightly forward in the chair until his or her shins are against the pad (see Figure 181);
- Stand facing the individual and hold the handles;
- Ask the individual to place his or her hands on the handle bar and to pull up into a standing position (if an individual has difficulty with this an employee can assist) (see Figure 182);
- Encourage the individual to remain in an upright position as the seat is brought into position;
- Ask the individual to hold on as he or she sits back on to the seat;
- Remove the brakes and reassure the individual during the transfer, and transport short distances only (see Figure 183 on the next page);

Fig. 183

- At the destination chair apply the brakes;
- Ask the individual to come up into a standing position;
- Remove the seat and ask the individual to sit down (if the individual has difficulty with this an employee can assist);
- Ask the individual to lift his or her feet off the transporter and remove the transporter carefully;
- Ensure the individual is safe and comfortable, encouraging him or her to shuffle back in the chair if necessary.

Assistance to Sit up in Bed

Use of profile beds that bring an individual into a sitting position (see Figure 184) remove the need for manual assistance of an individual into a sitting position. Profile beds have been found to improve tissue viability and also increase an individual's independence as he or she may well be able to use the profile function without assistance.

Alternatively, a pillow lifter could be used for the same purpose.

If assistance is required proceed as follows:

- Start in the basic stance in an oblique position to the bed and facing the individual (see Figure 185 on the next page);
- Flex at the hips and knees;

Fig. 184

- Ask the individual to raise his or her head off the bed and at the same time guide the shoulder across and down the bed until the individual is resting on their elbow. At the same time transfer your body weight from the front to the back foot (see Figure 186);
- Ask the individual to push up to a sitting position and to support him/herself by bending one knee and placing the hand/s behind their body as a prop on the bed (see Figure 187);
- Adjust the pillows;
- Ensure the individual is safe and comfortable (use correctly fitted safe sides/bed rails if required).

Fig. 185

Fig. 186

Fig. 187

Fig. 188

Fig. 189

Alternative methods of assistance

1. The individual may be able to use a rope ladder fixed from the end of the bed in order to pull him/herself up into a sitting position (see Figure 188);

2. Two employees can assist an individual into a sitting position in the following manner when a profile bed is unavailable (however, a profile bed should be provided where possible):

- Place a handling strap behind the individual's shoulders (see Figure 189);
- Standing on either side of the bed each adopt the basic stance, flexing and placing your weight on the foot nearest the head of the bed (see Figure 190);
- Hold the strap with the inside hand;

Fig. 190

Fig. 191

- Make sure the individual can bring his or her chin towards their chest when she or he is sitting to prevent the head falling back;
- Get the individual to bend their knees slightly;
- On the command 'ready, steady, sit' transfer your weight on to the back foot, bringing the individual up into a sitting position (see Figure 191 on the previous page);
- If an additional task is required, such as placing extra pillows, a third employee may be required if the individual cannot support him/herself once sitting.

Assistance To Get Into Bed

A height adjustable profile bed will assist the transfer. Raise the profile back rest up for the individual to lean into.

If a profile bed is not available then several pillows will prevent the individual falling back as he or she transfers into the bed.

Ensure the height of the bed is appropriate for the individual to sit on the side of the bed with his or her feet firmly on the floor (the lower the bed, the easier it is to sit well on to it).

If the individual feels able and the edge of the bed is firm, ask the individual to sit on the bed at an oblique angle and lie back against the profile bed or pillows and raise the legs one at a time (see Figure 192).

Fig. 192

The individual's bottom will create resistance against the bed sheet as the legs are transferred into the bed and this will have an impact on tissue viability and is thus undesirable; it also makes the legs feel heavier to the employee. This can be prevented by sitting the individual on equipment designed to reduce friction such as:

- A satinised base sheet on the bed (see chapter on Encouraging Independent Mobility);
- A turn disc;
- A slide sheet with a non-slip edge;
- A slide sheet with handles designed to be held during the manoeuvre to prevent the individual slipping off the bed.

Caution: using a standard slide sheet under the bottom will reduce the friction, but if the individual's legs are lifted across into the centre of the bed the hip is likely to move to the edge of the bed and the individual could fall to the floor.

Fig. 193

Fig. 194

A small roller slide sheet or folded flat sheet on the foot of the bed for the ankles and calves makes it easier to position the individual's legs without lifting.

If assistance is required proceed as follows:

- Position the back rest of the profile bed at approximately 45° (or place pillows ready for the individual to lean into);
- If necessary place a slide sheet at the foot end of the bed;
- Ask the individual to sit as far on to the bed as he or she can and lean on to or side lie on the profile back rest or the pillows;
- Place a handling strap behind the individual's lower calf;
- Position yourself facing the foot of the bed with the individual's legs in front of you (see Figure 193);
- Start from a power squat and raise the legs by coming up into a standing position (see Figure 194);
- Walk towards the bed and position the legs on to the side of the bed (see Figure 195 on the next page);
- Slide the legs into the bed until they are comfortable and remove the slide sheet from under them and the turn disc from under the hips (see Figure 196 on the next page);
- Once the individual has rolled on to his or her back he or she can then shuffle into a comfortable position.

Fig. 195

Fig. 196

Assistance to Get Out of Bed

If assistance is required proceed as follows:

- Ask the individual to turn on to his or her side or assist the individual to roll (see below, rolling an individual in bed);
- Ask or assist the individual to draw their knees up and towards the edge of the bed (see Figure 197) (this will allow the legs to drop over the edge of the bed naturally as the individual sits);
- Adopt the basic stance with an oblique position to the top end of the bed and close to the individual;

Fig. 197

Fig. 198

Fig. 199

Fig. 200

Fig. 201

- Ask the individual to push up on to their elbow or assist him or her to do this by placing a hand under their shoulder (see Figures 198 and 199) and transfer your weight on to your back foot as you assist;
- Ask the individual to draw his or her knees up and slide the feet over the edge of the bed or assist the individual to do this (a slide sheet under the feet facilitates this (see Figure 200));
- As the feet come off the side of the bed the individual should push up against the bed to bring him/herself into a sitting position;
- If the individual needs assistance, adopt an oblique stance towards the bottom of the bed and place a hand at the shoulder and a hand on the hip (see Figure 201) and transfer your weight on to your front foot as the individual pushes up (see Figure 202 on the next page);
- Support the individual (see Figure 203 on the next page) or ask him or her to support him/herself as the bed is lowered until their feet are on the ground.

Fig. 202

Fig. 203

Rolling an Individual in Bed

If assistance is required proceed as follows:

- Ask the individual to look in the direction of the turn, reach across with his or her arm and bend the knee of the far leg;
- Ensure the arm on the side the individual is turning towards is away from the body creating a space;
- Stand at the side of the bed the individual is to face and adopt the basic stance;
- Place an open palm hold on the individual's shoulder blade and pelvis or knee, but do not grip (see Figure 204 on the next page);
- Say clearly 'Ready, steady, roll';
- On the command 'roll' transfer your body weight from your front foot on to the back foot;
- Assist the individual to roll, ideally letting the individual's shoulder lead the move;
- Move back in towards the side of the bed and stand close to it (see Figure 205 on the next page);
- A second employee can assist by pushing at the same time using the same contact points (see Figure 206 on the next page) and, from a basic stance, transferring his or her weight from the back foot to the front foot as he or she pushes;
- Ensure the individual is safe: use a correctly fitted safe side if necessary;
- Ensure the individual is comfortable, inserting additional pillows if necessary;
- A pillow can be used to support side lying, removing the need for an employee to hold the individual during personal care. To remove the need for an employee to hold the individual, support side lying by:
  - Getting the individual to put his or her face on one corner of a pillow and then take the opposite corner and twist the pillow (see Figure 207 on the next page);
  - Push the twisted corner under the individual's shoulder (see Figure 208 on the next page);
  - Ask the individual to lean back into the pillow (see Figure 209 on the next page).

If the individual needs to be repositioned centrally in the bed then insert and use the slide sheet as described in the chapter Use of Slide Sheets.

Fig. 204

Fig. 205

Fig. 206

Fig. 207

Fig. 208

Fig. 209

Note: In a very high dependency situation additional employees will be required to support at additional points so that the individual's whole body is rolled in unison in, for example, a log roll.

Falls: Prevention And Management

The risk factors involved in falls can be divided into three main groups:

1. Intrinsic – medical, physical and functional ability of the individual.
2. Extrinsic – environmental factors.
3. Behavioural – mental health and cognitive level of the individual.

(T Masud and R Morris 'Epidemiology of Falls' Age and Ageing, 2001, 30-S4, 3–7)

The management of falls should be based on identifying the contributory factors and taking action to reduce the likelihood of the individual falling. The HSE's policy on risk assessment applies to the management of falls in the same way as it does to all risks in its workplaces: the risks of falls should be managed and controlled using the process of risk assessment laid down by the relevant legislation and taking account of the HSE's corporate and local/site or service specific safety statements and policies.

Individual service users at risk from falls should have a specific falls and manual handling assessment. This assessment should take account of any factor that is likely to have an impact on the likelihood of the individual service user falling or not (e.g. medication, poor lighting at night or an unfamiliar environment).

Furthermore, any incidents involving falls of employees and/or individual service users should be investigated and reported on the National Incident Management System (NIMS) in accordance with the HSE's Incident Management Framework (IMF). Guidance on conducting an investigation into and reporting the occurrence of a fall involving a service user can be found in the HSE's *Service User Falls A Practical Guide for Review* (http://13.94.105.41/eng/about/qavd/incident-management/service-user-falls-a-practical-guide-for-review.pdf).

Assistive technology can be used to reduce the likelihood of falls: for example, sensors can be placed on chairs, beds or floors, or even around the whole room, to alert an employee to the fact that the individual is up and moving.

Environments should be assessed to ensure the risks created are reduced to as low a level as is reasonably practicable.

Assisting Someone Up From The Floor

If you come across an individual on the floor, ensure he or she is not hurt or injured and reassure him or her. If you are in any doubt, call for medical assistance. Then follow your organisation's procedures and the individual's manual handling plan. If the individual is unable to move then equipment such as a raising cushion or a hoist will be required.

If assistance is required proceed as follows:

- Ensure there is sufficient space around the individual;
- Bring a suitable chair close to the individual, so that he or she can push up on it;
- A second chair or stool can also be brought for the individual to sit back on;

Fig. 210

Fig. 211

Fig. 212

Fig. 213

- Kneel on the floor beside the individual, adopting a position which allows appropriate flexion and spinal alignment and a stable base, or sit on a chair beside the individual;
- Avoid stooping over the individual;
- Bring the chair/s close to the individual;
- Ask or assist the individual to roll on to his or her side, bend both knees with the outer leg over the leg on the floor, raise up on to an elbow and push up with the other hand until in a side sitting position (see Figures 210 and Figure 211);
- Ask or assist the individual to turn on to his or her hands and knees (see Figure 212);
- Place a chair so the individual can lean his or her hands on the seat of the chair (see Figure 213);

- **Ask the individual to raise a knee and place the foot on the floor** (this can be easier to achieve if the individual leans over one knee before attempting to lift the other leg through (see Figure 214));
- **A second chair can be placed behind or slightly to one side of the individual** (see Figure 215);
- **Encourage the individual to then push up, turn and sit on the chair or push back on to another chair set behind him or her;**
- **The individual should remain seated until he or she has regained his or her balance and confidence before standing or transferring to a wheelchair** (see Figure 216).

Fig. 214

Fig. 215

Fig. 216

UNIT 19
Assisting Babies and Small Children

Children present with a very wide range of needs in relation to moving and handling. Specific methods may be required to meet their needs and these should be devised in discussion with other professionals such as physiotherapists, language therapists, occupational therapists, etc. Any method implemented must take account of not only children's physical needs but also their psychological needs, psycho-social needs, social needs and educational needs. Families must be involved as they will often be providing the continuous, everyday support.

A few basic strategies and methods are described below, but specific training in the moving and handling of children should be given to all who work in child settings. Small children and babies may appear to be in a low risk category for moving and handling but their height and weight are only two aspects which should be considered in a risk assessment. Other aspects may include the likelihood of spasm, low tone, high tone, dystonia, behavioural factors and medical considerations, to name but a few.

If children are to be encouraged to reach their full potential in all aspects of their lives it is important that they become as mobile as they possibly can. The moving and handling of children should reflect this desired outcome and therefore should not be unreasonably cautious in involving a child in his or her own movement.

Touch

Children are very sensitive to touch and they gather a lot of information through touch (e.g. children may interpret firm contact as commanding or controlling as well as, or instead of, being merely for the purposes of instruction and support). Tension in the contact hand can give an excessively firm touch and it can be useful to undertake some relaxation exercises before approaching or having physical contact so that any tension in the employee's touch is reduced.

Children don't just use their voices for communication, but all of their senses (touch, sight, hearing, etc). So when you approach a child remember some of the following basic communication skills which can encourage a child to relax, relate and participate such as:

- 'Open' body language;
- Gentle, calm and quiet voice tone;
- Calm, controlled manner of approach;
- Slow movement as walking quickly will make you talk more quickly and at a higher pitch and volume;
- Making sure the child is happy for you to commence the move either from the child's verbal cues or from observing the child's body language;
- Being prepared to wait or even to return in a few minutes;
- Having a positive expectation: do not invite refusal but expect the child to succeed (e.g. 'We are going to stand now' rather than 'Can you stand up for me');
- Using positive rather than negative instruction (e.g. 'Stay standing' not 'don't sit down').

Talking is likely to increase postural tone in children with cerebral palsy: if the child is in a wheelchair and you stand above him or her as you talk he or she will look up, which increases an abnormal extensor pattern of movement.

Touch Cues

Soft and firm touches give different information and both are appropriate for different outcomes, but to give an instruction try a different type of touch altogether. For example:

SOFT: can be used for introduction, to build up confidence and trust;
FIRM: can be used to create a response or action (e.g. to facilitate a standing motion);
INSTRUCTION: can be used to guide, for example, touch the child's hip and then a chair to indicate the instruction, 'sit'.

Facilitation

Using peripheral key points (shoulder and pelvis) to roll:

- Increases postural tone in hypotonic children as they activate muscles;
- Decreases postural tone in hypertonic children, making it easier for them to move.

The central key point (high central front or back):

- Assists in bringing 'nose over toes' to facilitate standing;
- Reduces extension when a child is hoisted in a sling.

Lifting Aids

Hoists and slings are used for children of all ages and their method of use is the same as for an adult (which is described in the chapter on hoists and slings). Specialist slings such as walking harnesses can be very beneficial when developing standing and walking functions. These slings can also aid complex transfers such as when using specialist standing or walking frames, gym apparatus or even when doing horse riding.

A manual lifting sling is available for children and allows for an interim manual method either for settings where a hoist would not be accessible or as an introduction to slings and future hoisting. The sling is fitted as for a hoist sling but the child is lifted using the handles and using the following basic load management principles:

- Identify the number of employees to be used by undertaking a risk assessment;
- Adopt the basic stance or power squat if lifting from the floor;
- Get a good hold;
- Keep the load close;
- Keep the transfer distance as short as possible.

Particular care must be taken if the child tends to go into extensor spasm or has unpredictable movement or behaviour patterns.

Babies

All the principles of basic load management apply when handling small babies along with considerations of how they are moving and responding to touch and whether they have additional special needs.

When transferring babies into seats or buggies (see Figure 217):

- Adopt the basic stance;
- Move your weight over your feet in the direction you are moving the baby;
- Flex in the direction you are moving the baby;
- Keep the baby as close to your body as is possible;
- Give appropriate support to the baby, particularly at the head.

Fig. 217

Variations of holds

Fig. 218

Fig. 219

Fig. 220

Small Children

Although it is acceptable to lift small children a risk assessment must take account of all aspects of the child which could make lifting a significant risk: for example, spasm, unpredictable movement or behaviour, low tone, high tone and handling constraints such as hip spica.

Children respond very differently to strangers and family members or people they know well and this also will impact on the risks of lifting them. It is unwise to make an assumption that it is safe to lift because the child is small.

Variations of holds

Fig. 221

Fig. 222

Variations of supporting standing

Fig. 223

Fig. 224

Fig. 225

Lifting from the floor

When lifting from or putting down on the floor ensure you have:

- A stable base;
- A secure hold;
- Split the transfer distance where possible (e.g. from chair to floor rather than from standing position to floor).

It may be better to pass the child to a standing person rather than try to stand whilst supporting the child's weight.

Where possible try to support the child's weight through your leg rather than just your arms (see Figure 226).

Fig. 226

UNIT 20
Assisting the Person with Dementia

Assisting the Individual with Dementia, Anxiety and Non-Compliant Behaviour

To fully address these factors, employees, should receive specialist training (see Oddy, R, Promoting mobility for people with dementia – A problem solving approach, 2nd edition (2003), Alzheimer's Society).

Always consider how vulnerable you are to harm before you get into a position which could expose you to that harm. For example, kneeling directly in front of a person to apply a sling could expose you to kicking, biting and hitting, whereas standing in a power squat to one side of the person means you can move away more rapidly and are less in the 'direct line of fire'. Obviously, a second employee could also support and distract the individual to reduce the likelihood of undesirable reactions.

Individuals with dementia may misinterpret or be confused about familiar features and this can affect their ability to move effectively. For example, a shadow on the floor or a door threshold or a change in the floor surface can all lead to the individual stopping and being reluctant to walk as he or she may be frightened of or be unable to understand what he or she is seeing. Employees need to be aware of these possibilities and learn how to avoid or manage them.

Adaptations To Standard Practice

Communication

Identify an appropriate communication method for each individual. Clear, concise instruction and use of goal based communication can be useful (e.g. 'Let us go for a walk' rather than 'Please stand up').

Fig. 227

Fig. 228

Sit to Stand (gap fill): If the individual is fearful of space then it may help to stand in front of him or her and offer your hands for him or her to take (see Figure 227 on the previous page); do not pull the individual into a standing position: the individual should stand independently or have a second employee to help him or her stand up (see Figure 228 on the previous page).
Grabbing: keep the individual's hands busy (e.g. with a hankie or stress reliever).

Fig. 229

Fig. 230

Assisting Walk

Leaning when walking: If the individual leans on you as he or she is walking, stop the walk, reduce direct contact with the individual's body and see if he or she stands better; if not find a chair and sit the individual down for a time as he or she may be tired. The individual may walk better with the help of a walking aid to lean on.

Unison walking: this is stepping with the same foot as the individual (see Figure 229) and helps with walking as he or she is likely to copy your step.
Using a walking frame: the individual may need encouragement to walk into the frame: standing close by and using a touch prompt at the central key point on the back will encourage the individual to walk into the frame. Stand slightly in front of the individual rather than behind as again this encourages the individual to move forward (see Figure 230).

Steps and Stairs

Steps and stairs present a significant challenge; particularly coming down them. It may be advisable to consider a room downstairs for the individual as stairs are hazardous, with the potential for serious harm should an incident occur. However, some individuals will manage well if they are allowed to face the stair rail, grasp it with both hands and step down sideways one step at a time.

Fig. 231

Fig. 232

Chairs

Slumping in the chair can be an indication of illness or tiredness, and that the individual would benefit from a change in position (e.g. a rest on the bed). Slumping may also be an indication that the seating is not appropriate for the individual's needs and a seating assessment should be undertaken.

To sit: allow the individual to keep the chair in sight, walk the individual past the centre of the chair, ask him or her to place his or her hand down on to the arm of the chair and to turn the hips sideways in towards the seat of the chair as the individual sits (see Figures 231 and 232). Tapping the individual's hip or guiding the hip can also help.

Beds

Lying to sitting on the edge of the bed is a major position change which will make some individuals so anxious that they just will not do it. Take the move in steps and reassure at each step. Rolling the individual on to his or her side first, drawing the knees up and then gradually coming up into a sitting position and then bringing the legs off the bed, can be easier to manage and produces less anxiety.

Rolling: thinking too hard about moving can create an inability to move as movement is usually an automatic action to achieve a goal rather than a process we think about: distract conscious control by focusing the individual on an activity that would require a roll, rather than just instructing the individual to roll (e.g. stand at the side and say 'Can you look at my hand and reach or touch my hand?' rather than saying 'Roll over on to your side').

Releasing Grips

Consider the grip as a 'fish hook' (see Figure 233), control the hand (see Figure 234), bring the individual's thumb gently towards his or her hand (see Figure 235), ensure the thumb is lying alongside the index finger and gently move the hand in the direction away from the 'hook' (see Figure 236).

Stroking gently over the individual's knuckles may encourage the hand to release

OR

slide your hand under the individual's elbow and bring your hand forward until it is under his or her hand (see Figure 237).

Fig. 233

Fig. 234

Fig. 235

Fig. 236

Fig. 237

UNIT 21
Assisting the Plus Size Individual

Effective management of the plus-size individual requires a systems approach which encompasses policies, procedures, suitable resources, appropriate environments, training and a multi-disciplinary approach to risk assessment.

As individuals gain significant weight their ability to move will be affected. Individuals put on body weight in different distributions and their shape can also affect how easily they can move. Plus-size individuals are at risk of airways restriction and shortness of breath and may need to sleep in a semi-reclined position (M Muir and A Rush *Moving and Handling of Plus Size People: An Illustrated Guide* (Professional Series) (2013) National Back Exchange).

The common body shapes are:

- **Proportional:** where the weight distribution is evenly distributed over the whole body and is proportional to height;
- **Apple:** where the weight distribution is evenly distributed around the individual's trunk;
- **Pear:** where the weight distribution is around the lower body.

Differences in body shape have an impact on ease of movement and how individuals move. Individuals may well have developed methods to enable them to move which suit their body shape and capability: for example, in getting into and out of bed, some prefer to get into and out from a prone position, while others will roll. A suitable, adjustable profile bed can be of great assistance both for getting into and out of bed.

Use of equipment to aid mobility becomes increasingly important for plus-size individuals in order to reduce the risks to employees. Even lifting legs into bed becomes a significantly hazardous task as not only may the weight of each leg be substantial, but also the individual's inability to bend at the waist will increase the effort needed from the employee.

Mechanical leg lifters are available or beds which are designed to convert from bed to chair to enable the individual to then stand.

Beds can also tilt laterally for position change and can often be made wider to accommodate the larger frame of the individual.

The safe working loads and the widths and depths of all equipment must be assessed, not just hoists and slings, but also beds, chairs, commodes, etc.

PART 3

OTHER CONSIDERATIONS FOR MANUAL HANDLING OF PEOPLE AND INANIMATES

UNIT 22
Personal Protective Equipment (PPE)

Appropriate Clothing and Footwear

Wear clothes that do not restrict your movement or posture. Clothes should be loose and footwear with good grip should be worn where appropriate or necessary. Other personal protective equipment may be required such as gloves. Where other PPE is provided ensure you wear it.

Worthwhile finding the time to put on proper PPE!!!

UNIT 23
Employee Risk Groups

Some employees may belong to one or more sensitive risk groups such as:

Younger employee

A younger employee may lack experience and therefore may be at a higher risk as a result.

Pregnant employee

A pregnant woman (especially in the third trimester of pregnancy) will be at higher risk of injury due to difficulty in accomplishing and maintaining good posture as her centre of gravity has shifted during the course of her pregnancy. However, a woman at ANY stage of her pregnancy may be at risk of injury to herself or harm to her unborn baby whilst undertaking manual handling duties.
Due care is also required for a woman manual handling loads upon her return to her normal work after childbirth. Also refer to: Chapter 2 of Part 6 of the 2007 Regulations, Regulations 147 and 148 along with Schedule 8.

Employee with reduced mobility

Lack of mobility may put a person at a higher risk of injury.

New or inexperienced employee

A new or inexperienced employee may not be fully aware of their environment or may lack the required dexterity, which may place them at a higher risk.

Employees with existing health conditions

UNIT 24

Reducing the Risks from Manual Handling of People and Inanimates

Think before lifting and consider:

- Your posture, remember the principles of manual handling techniques;
- The route you have to travel: plan it and then make sure it is clear (many manual handling incidents are caused by trips and falls when handling);
- Make the load smaller where possible.

Fig. 238

Fig. 239

Use any equipment that your employer has supplied:

- Trollies;
- Sack barrow;

Fig. 240

Fig. 241

- Hand held hooks or suction pads;

Fig. 242

Fig. 243

- Height adjustable trucks;

Fig. 244

Fig. 245

- Drum trucks.

Fig. 246

Fig. 247

When working on objects, put them at a good height to prevent stooping or kneeling:

Fig. 248

Fig. 249

- Roller bed to push items along;
- Hoist;
- Pallet truck.

Remember to apply these principles at home as well, your back is not only at risk when you are at work!

Fig. 250

Fig. 251

REMINDER!

Most of us encounter manual handling every day of our lives both at home and in the workplace. It is because we lift something every day of our lives both at home and at work that we need to ensure that we lift correctly. By applying basic principles when manual handling, the risks can be reduced.

It is important to remember to avoid manual handling of heavy loads: always use a mechanical means of moving/lifting loads or get help. All manual handling does not need to be avoided once you observe TILEO and the 11 principles of lifting.

Always use correct lifting techniques at ALL times, take gentle exercise and ensure your life style is conducive to maintaining good physical fitness.

HSE Publications and Online Resources:
Management of health and safety at work – APPROVED CODE OF PRACTICE AND GUIDANCE, 2nd edition (2000), HSE.

Manual handling – GUIDANCE ON REGULATIONS, 3rd edition (2004), HSE.

HSELanD (the HSE's online learning and development portal).

Irish Legal System:
www.en.wikipedia.org/wiki/Law_of_the_Republic_of_Ireland

Terminology:
www.hsa.ie/eng/Publications_and_Forms/Publications/Safety_and_Health_Management/Workplace_Safety_and_Health_Management.pdf

www.hsa.ie/eng/Publications_and_Forms/Publications/Safety_and_Health_Management/Guide_to_SHWWA_2005.pdf

Safety Health & Welfare at Work Act 2005:
www.hsa.ie/eng/Publications_and_Forms/Publications/Safety_and_Health_Management/Guide_to_SHWWA_2005.pdf

www.hsa.ie/eng/Publications_and_Forms/Publications/Safety_and_Health_Management/Short_Guide_to_SHWWA_2005.pdf

Manual and Person Handling Training:
www.hsa.ie/eng/Publications_and_Forms/Publications/Occupational_Health/Manual%20Handling%20Revision%202.pdf

www.hsa.ie/eng/Publications_and_Forms/Publications/Occupational_Health/Caring_with_Minimal_Lifting.pdf

Safety Health and Welfare at Work (General Application) Regulations 2007 Chapter 4 of Part 2: Manual Handling of Loads:
www.hsa.ie/eng/Publications_and_Forms/Publications/Retail/Gen_Apps_Manual_Handling.pdf

www.besmart.ie/fs/doc/Manual_Handling_Health_Care.pdf

Safety Health and Welfare at Work (General Application) Regulations 2007 Chapter 2 of Part 2: Use of Work Equipment:
www.hsa.ie/eng/Publications_and_Forms/Publications/General_Application_Regulations/Work%20Equipment%20updated%20version.pdf

www.hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/Patient_Hoist.pdf

Safety Health and Welfare at Work (General Application) Regulations 1993 Part X: Notification of Accidents and Dangerous Occurrence:
www.irishstatutebook.ie/1993/en/si/0044.html#zzsi44y1993a58

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