ASSOCIATION OF PAEDIATRIC CHARTERED PHYSIOTHERAPISTS

GUIDANCE FOR PHYSIOTHERAPISTS: PAEDIATRIC MANUAL HANDLING

A clinical interest group of the Chartered Society of Physiotherapy

Acknowledgements

This document has been written for physiotherapists working with children and young people. It was prepared by members Association of Paediatric Chartered Physiotherapists and in consultation with the National Committee of the Association of Paediatric Chartered Physiotherapists.

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Guidance for Physiotherapists: Paediatric Manual Handling

Contents

Key facts about back pain

It is estimated that four out of every five adults (80%) will experience back pain at some stage in their life (Palmer et al 2000).

The number of people with back pain increases with advancing age, starting in school age children and peaking in adults of 35 - 55 years of age. Back pain is just as common in adolescents as in adults (Burton et al 2006).

The following factors may contribute to back pain:

- physical factors such as heavy physical work, frequent bending, twisting, lifting, pulling and pushing, repetitive work, static postures and vibrations (Andersson 1997);
- psychosocial factors such as stress, anxiety, depression, job satisfaction, mental stress (Burton et al 2006, Hoogendoorn et al 2000).

The National Health Service spends more than £1 billion per year on back pain related costs, this includes:

- £512 million on hospital costs for back pain patients;
- £141 million on GP consultations for back pain;
- £150.6 million on physiotherapy treatments for back pain (Maniadakis and Gray 2000).

Back pain, in particular persistent back pain (i.e. <3 months), can have a significant impact on people's lives. It frequently reduces their quality of life and adversely affects their family and social relationships (Pain in Europe Report 2003).

Nearly 5 million working days were lost as a result of back pain in 2003 - 2004. This means that on any one day 1% of the working population are on sickness leave due to a back problem (Health and Safety Executive 2005).

Source: www.backcare.org.uk 2009

Introduction

The aim of this document is to encourage readers to:

- be aware of and follow risk assessment guidelines for all moving and handling situations;
- minimise risk by managing and controlling hazards;
- raise awareness amongst staff of the need for efficient movement to minimise risk of injury;
- promote minimal lifting and safer handling;
- encourage independence whenever possible.

Working with babies, children and young adults, or children with additional support needs, places staff, parents and carers in a continuous 'at risk' situation. The very nature of the work involved means that one is often bending, twisting and stooping to low levels, and carrying a moving, unpredictable load. Although the weight of the load in some circumstances may be small, the environment, task needed, or capability of the assistant or carer may not be ergonomically favourable or ideal. Handling over the sides of cots, moving from the floor, carrying into and out of a car, placing children into and out of therapeutic equipment (including wheelchairs) are just a few typical examples.

This publication has been produced as guidance for paediatric physiotherapists to enable them not only to comply with current legislation, but to provide them with background information as a useful resource for carrying out risk assessments both in their workplace (domestic, community or hospital environment) and, on the babies, children and young adults with whom they work.

Note:

In this publication the term 'child' is used to refer to the baby, toddler, child or young adult. The child is referred to as 'he' to simplify the text.

A Manual Handling Risk Assessment and Individual Manual Handling Plan template is available for APCP members to download from the APCP website - www.apcp.org.uk

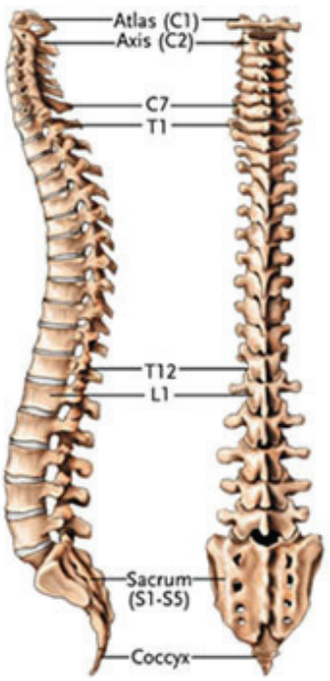
APCP gives permission for members to use and adapt this form as required for use in their workplace.

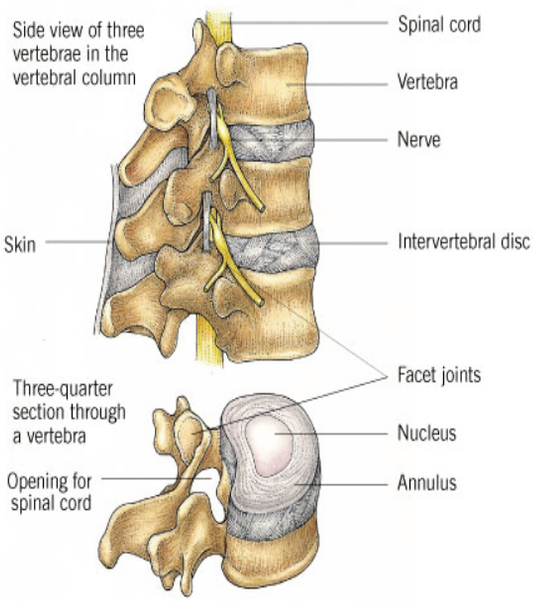
Training around country may vary but the general principles contained within this book should reflect the basic approach for all.

Functional Anatomy

The human spine and skeleton provides protection for vital organs and a framework from which the muscles of the body can work.

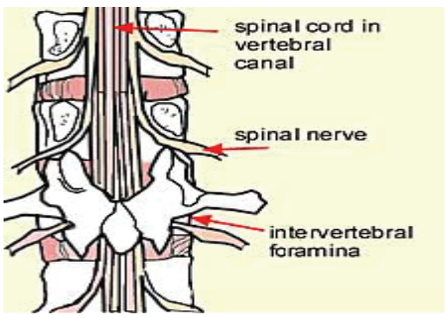
The spinal column consists of seven cervical vertebrae, twelve thoracic vertebrae, and five lumbar vertebrae. The sacrum and coccyx consist of bones that are fused together, five in the sacrum and four in the coccyx. Due to the number of bones in the spine (33 in total) there is great flexibility. The vertebrae are able to slide and glide on each other to provide a wide range of movement but this can result in an increased risk of injury.





Each vertebra is jointed with the next (apophyseal joints), and between each vertebral body there lies a disc. The discs are made up of two parts: the cartilaginous outer layer, or annulus fibrosis, and an inner nucleus, the nucleus pulposus. This has a jelly-like consistency and is made up of 88% water. Adequate hydration of the body is important to keep the discs healthy. The discs act as shock absorbers.

The vertebral bodies take weight and offer support. The transverse processes and spinous processes provide an area for attachment of ligaments and muscles. The vertebral canal houses the spinal cord and through the vertebral foramina the spinal nerves emerge. These nerves transmit impulses from the higher centres in the brain to the rest of the body.



Ligaments have an inelastic structure which limits the amount of movement within the spinal column to prevent excessive movement causing harm. Ligaments are attached bone to bone and therefore have a limited blood supply. Ligaments are susceptible to cumulative strain.

Muscles allow upright posture and stabilise the trunk. They also provide movement. The muscles are made up of highly elastic and contractile tissue, however they are liable to fatigue and can overload if not given sufficient recovery time. Muscles assist in pumping blood around the body and need to contract to transport oxygen and get rid of toxins which cause cumulative strain. Static postures will result in muscle fatigue due to poor blood supply and lack of removal of toxins.

Tendons are inelastic structures which attach muscle to bone. They have a poor blood supply and quickly adapt to shortening, e.g. shortening of Achilles tendon.

To summarise:

The spine provides an upright posture for the body, protection for the nervous tissue, and movement for the trunk.

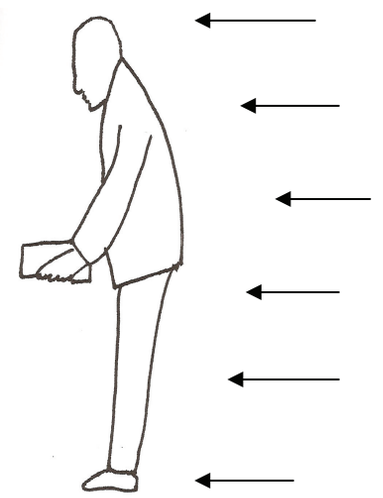
Together these functions are mutually incompatible and humans are poor at working within their body's own limits which is often why so many problems can arise.

The stability of the spine depends on the discs and the ligaments. These are the very structures which often sustain **cumulative injury** due to the repetitive forces such as the daily manoeuvres involved in therapy or care situations.

Efficient Movement: an efficient movement is one which achieves its objectives with minimum muscle effort and therefore minimum cumulative strain. There is no absolute right or wrong way to carry out human activity or movement. Principles of movement should be applied and modifications made for individual situations.

The aim of efficient movement is to reduce to a minimum the amount of **fatigue–strain-injury** arising from the way we move. The fundamental error in human movement is 'top heavy movement'.

Top Heavy Movement:



A top heavy movement is characterised by standing with feet together (more or less parallel) while the head, upper limbs and trunk are flexed forward, resulting in a postural stiffening reaction in the lower limbs and back.

Top heavy movements unbalance the body in a forward and downward direction. In mechanical terms, the body should fall over but it doesn't; instead, the leg and back muscles contract (a process called protective postural reaction) to help maintain balance. This results in increased stiffening of the lower limbs and back and is the most expensive form of muscle work in terms of energy expended, cumulative strain and reduction in the level of skill in the movements themselves.

Because of sustained tension in the leg and back muscles to maintain balance, movement is more or less restricted to the upper part of the body. When used repeatedly or sustained for any length of time, top heavy movements produce a gradual loss of normal elasticity of the body tissues making the individual more prone to fatigue, cumulative strain and/or permanent damage and injury.

Unfortunately top heavy movements are often used in day to day activities and not just at work.

Example of top heavy movements include: assisting a child to feed and drink; playing with a child on the floor; speaking to a child on a chair or bed; picking a child up from the floor; assisting to toilet a child; bathing a child; changing or dressing a child; changing a nappy.

Therefore control and reduction of top heavy movement is essential if safer and more efficient movement is to be achieved.

Definitions and Terminology

Manual Handling

Manual handling can be defined as:

> 'Any transporting or supporting of a load by one or more workers, including lifting, putting down (lowering), pushing, pulling, carrying, or moving a load, by hand or bodily force, which, by reason of its characteristics or of unfavourable ergonomic conditions, involves a risk of injury to workers.'

A load is defined as including any person or inanimate object. Introducing mechanical assistance, e.g. a hoist, may reduce but not eliminate manual handling, as effort is still required to move, steady or position the load. Manual handling includes both transporting a load and supporting a load in a static posture. The load may be supported by the hands or any other part of the body.

Manual Handling Operations Regulations 1992 Reg 2 (1)

Hazard

A hazard is anything with the potential to cause harm.

Risk

Risk is a combination of the probability or chance of harm occurring, together with the severity (high, medium or low) of the consequences

Risk = Probability x Severity

Risk Assessment

Risk assessment is addressed elsewhere in this publication but it is appropriate to introduce it here. It is a process which involves assessment of four key areas of the manual handling operation (**TILE** – the Task, the Individual, the Load, and the Environment).

When working with children and young people there may also be other additional factors, such as psychosocial, behavioural or emotional issues, and equipment issues that may have to be considered.

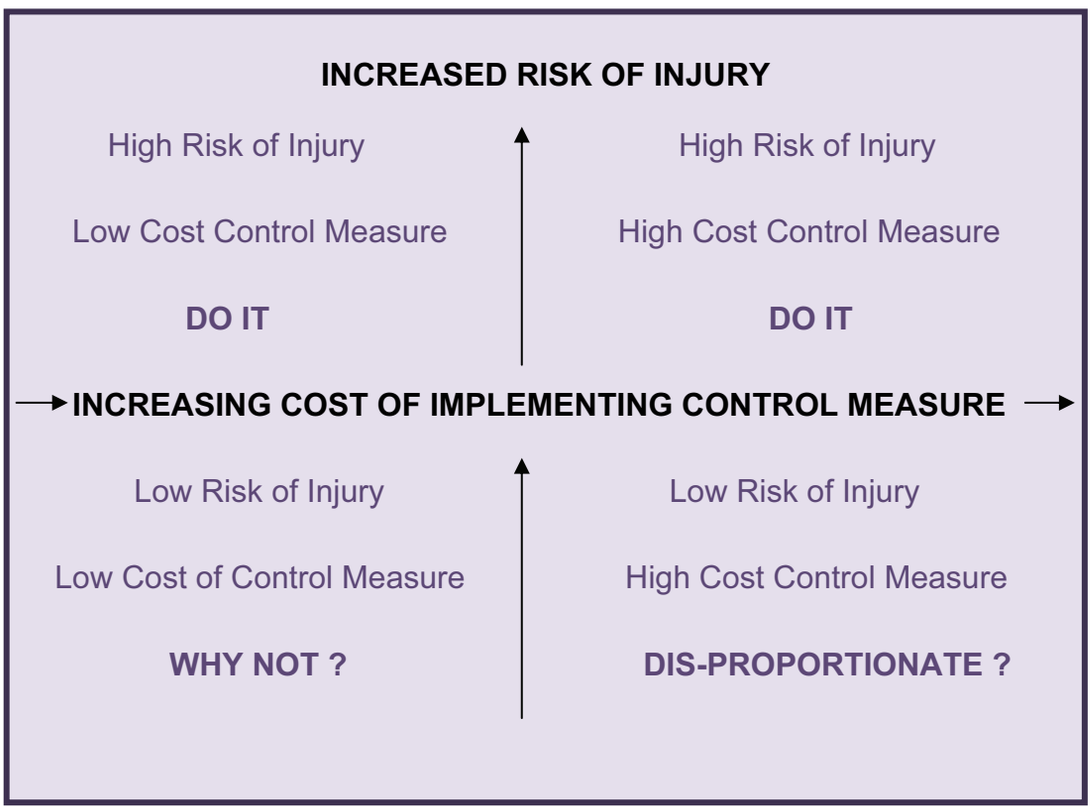
Safe Systems of Work

These are provided when all aspects of the work system have been risk assessed and the risks involved reduced to a minimum, as is reasonably practicable.

To understand the term `reasonably practicable' one must be clear that a control measure is the solution or means used to reduce the risks to an acceptable level by reducing the probability or severity or both. Examples of control measures can be moving and handling equipment, e.g. slide sheets; moving and handling training; risk assessments; or additional trained staff.

'Reasonably Practicable' = Cost versus Consequences

The cost of implementing a control measure to reduce risk, balanced against the cost of the consequences to the establishment, company, employee or client of not doing so, can be represented in a tabulated form (below).



Cost versus Consequences

Ergonomics

Ergonomics is the science concerned with the match between people and their work. It puts people first taking into account their capabilities and limitations. Ergonomics aims to make sure that tasks, equipment, information and the environment suit each worker.

By applying the principles of ergonomics:

- performance and productivity may be improved;
- the potential for accidents may be reduced;
- the potential for injury and ill health may be reduced.

People often adapt themselves to difficult situations at work and accept high levels of discomfort and effort as an inevitable part of the job, but they suffer strains and injuries from bad working postures. Failure to observe ergonomic principles may have serious repercussions for both individuals and an organisation.

'Fit the task to the person, not the person to the task; the workplace to the worker, not the worker to the workplace'.

Current Legislation

Manual handling accidents and injuries have been common occurrences in industry for many years and legislation has been established for some time, giving guidance on how to make the workplace a less hazardous environment.

Occupational health and safety legislation falls within the criminal law and is enforced by the Health and Safety Executive (HSE). A breach of health and safety law may give rise to a criminal prosecution. A breach of duty of care may give rise to a civil claim for damages under the tort of negligence.

With the range of manual handling tasks undertaken by paediatric physiotherapists and other health care workers, and the variety of situations in which they work, it is difficult to have just one document which covers all eventualities, therefore a working knowledge of the relevant legislation and advisory documents (listed below) is helpful.

Health and Safety at Work (HASAW) etc. Act 1974 (HASAW)

This Act was intended to give a framework on which regulatory control could be based and gave employers a duty to safeguard the health, safety and welfare of their employees at work, as far as is reasonably practicable. Section 2 imposes a clear obligation on all employers to provide: *'such information, instruction, training and supervision as is necessary to ensure, as far as is reasonably practicable, the health and safety and welfare at work of his employees'.*

The Act states that when handling loads at work both employers and employees have responsibilities to uphold.

Employers must:

- assess and monitor working practices;
- supply proper training, keeping accurate records of content and attendance;
- safeguard against accidents;
- have an accident reporting procedure;
- have knowledge of safe load handling.

Employees must:

- accept responsibility for their own safety as well as that of the patients and colleagues with whom they work;
- undertake training offered;
- be aware of health and safety issues;
- use available equipment;
- be aware of their own limitations;
- report accidents and hazards;
- be aware of the cumulative effect of repeated manual handling procedures.

Manual Handling Operations Regulations 1992 (updated 1999) (MHOR)

Under these regulations employers must (as far as is reasonably practicable) avoid the need for their employees to undertake manual handling involving a risk of injury. If it is not reasonably practicable to avoid the risk of injury to its employees, then it must carry out a suitable and sufficient assessment and take appropriate steps to reduce the risk to the lowest level practicable.

The 1999 update protects the 'unborn' child of the employee, as long as the pregnancy has been declared to the line manager who will then undertake a risk assessment on the staff member and adjust the work accordingly during the pregnancy.

The Manual Handling Operations Regulations [Regulation 4(1)] establishes a clear hierarchy of measures that an employer must follow to reduce the risks from manual handling:

i. avoid hazardous manual handling operations as far as is reasonably practicable;

ii. make a suitable and sufficient assessment of any hazardous manual handling operations that cannot be avoided;

iii. reduce the risk of injury from these operations as far as is reasonably practicable.

Management of Health and Safety at Work Regulations 1999

Under these regulations employers have various duties including the duty to assess risks to the health and safety of their employees at work, in order to identify risks relating to other health and safety at work legislation such as the MHOR 1992.

Control of Substances Hazardous to Health Regulations 2002 (COSHH)

COSHH regulations are aimed at preventing or reducing workers' exposure to hazardous substances by:

- finding out what the health hazards are;
- deciding how to prevent harm to health;
- providing control measures to reduce harm to health;
- making sure they are used;
- keeping all control measures in good working order;
- providing information, instruction and training for employees and others;
- providing monitoring and health surveillance in appropriate cases;
- planning for emergencies.

Personal Protective Equipment (PPE) at Work Regulations 1992 (as amended)

PPE is defined as '*all equipment which is intended to be worn or held by a person at work and which protects him against one or more risks to his health and safety*'. The main requirement of the PPE at Work Regulations 1992 is that personal protective equipment is to be supplied and used at work wherever there are risks to health and safety that cannot be adequately controlled in other ways, e.g. masks, eye protection, steel toed footwear, etc.

Workplace (Health, Safety and Welfare) Regulations 1992

This legislation covers a wide range of basic health, safety and welfare issues and applies to most work places. The regulations expand the duties of the HASAW Act and are intended to protect the health and safety of everyone in the workplace, including people who are not their employees but who use the premises, and to ensure that adequate welfare facilities are provided for people at work.

Reporting of Injuries, Disease and Dangerous Occurrences Regulations 1995 (RIDDOR)

The reporting of accidents and ill health at work is a legal requirement. This information enables the Health and Safety Executive (HSE) and local authorities, to identify where and how risks arise, and to investigate serious accidents. The aim is to provide advice on how to reduce injury and ill health in the workplace. It is important to report near misses particularly with regard to manual handling incidents, as there may be an issue which will only be discovered if staff are vigilant in their reporting procedure. Identifying this problem early may prevent injury to another work colleague or a patient. Incidents should then be investigated by senior managers and measures taken to resolve any ongoing issues.

The Provision and Use of Work Equipment Regulations 1998 (PUWER)

These regulations require risks to people's health and safety, from equipment that they use at work to be prevented or controlled. The regulations require that equipment provided for use at work is:

- suitable for intended use;
- safe for use, maintained in a safe condition, and in certain circumstances inspected to ensure this remains the case;
- used only by people who have received adequate information, instruction and training;
- accompanied by suitable safety measures, e.g. protective devices, markings and warnings.

It is important for therapists to use equipment that is designed and provided for the task, e.g. a hoist provided for transferring a dependent patient. The employer has fulfilled their obligation to provide equipment and training, but if the employee chooses not to use the equipment this will place both them and the patient at risk.

Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)

These regulations aim to reduce risks to people's health and safety from lifting equipment provided for use at work. The regulations require that lifting equipment provided for use at work is:

- strong and stable enough for the particular use and marked to indicate safe working loads - the safe working load should be evident on all equipment and should not be exceeded;
- used safely, i.e. the work is planned, organised and performed by competent people;
- subject to ongoing thorough examination and, where appropriate, inspection by competent people – the date when equipment is due to be serviced should be clearly displayed on all equipment and all areas should maintain records of

equipment and service dates – employees should not use equipment that is overdue a service.

Lifting equipment includes any equipment used at work for lifting or lowering loads – this includes beds.

Disability Discrimination Act 1995 (DDA)

The Disability Discrimination Act makes treating disabled people less favourably than other people, without justification, unlawful and includes areas such as using services. This includes access to all areas (ramps, level doorways, lifts, toilets, etc.)

The Children Act 1989 and The Children Act 2004

These Acts set up a framework for the protection and care of children, and established clear principles with regard to decision making in relation to their care and management. The overarching principle is that the child's welfare is paramount. One of the main principles is that the views and opinions of the child should be sought wherever possible and this includes decisions about their moving and handling assessment.

Mental Capacity Act 2005

The Mental Capacity Act has five key principles and is applied to all those aged 16 or over. The Act applies to decisions regarding moving and handling activity.

- Principle One - every adult has the right to make his or her own decisions and must be assumed to have capacity to do so unless it is proved otherwise.
- Principle Two - people must be supported as much as possible to make their own decisions before anyone concludes that they cannot make their own decisions.
- Principle Three - people have the right to make what others might regard as unwise or eccentric decisions.
- Principle Four - anything done for or on behalf of a person who lacks capacity must be done in their best interests.
- Principle Five - anything done for, or on behalf of, people without capacity should be the least restrictive of their basic rights and freedoms.

Human Rights Act 1998

Children have rights under the Human Rights Act although they are not the primary focus of the legislation. An assessment must be made as to whether the proposed intervention and action may in any way involve a person's human rights and whether they can be legitimately interfered with. In the case of children, the rights and authority of the parents are also likely to be considered. Rights and freedoms include: the right to life, the right to liberty and freedom, prohibition of torture, freedom of thought, freedom of expression, and prohibition of discrimination.

A landmark test case in which two sisters with profound disabilities, who needed to be lifted to get out of bed or into the bath, had been denied the assistance of local authority carers able and willing to lift them manually on occasion, was presented in 2001. Central to the

dispute was the fundamental difference of opinion between the family, on the one side, and the Council, on the other, as to whether the lifting should be done manually, as the family preferred, or, as East Sussex County Council would have it, with the use of hoisting equipment. The judgement held that the Council's policy failed to fulfil the value, central to the human rights approach, of human dignity: the claimants were entitled to have their needs as human beings respected by those responsible for their welfare.

(R v East Sussex County Council Ex parte A, B, X and Y High Court CO/4843/01 17 December 2002 and 18 February 2003)

Additional Advisory Information

The following publications may provide some useful information:

- Chartered Society of Physiotherapy (2008) – Guidance on Manual Handling in Physiotherapy.
- Royal College of Nursing (2008) – Manual Handling and Safer Patient Handling.
- Back Care, Royal College of Nursing, and National Back Pain Association (2005) – The Guide to the Handling of People.

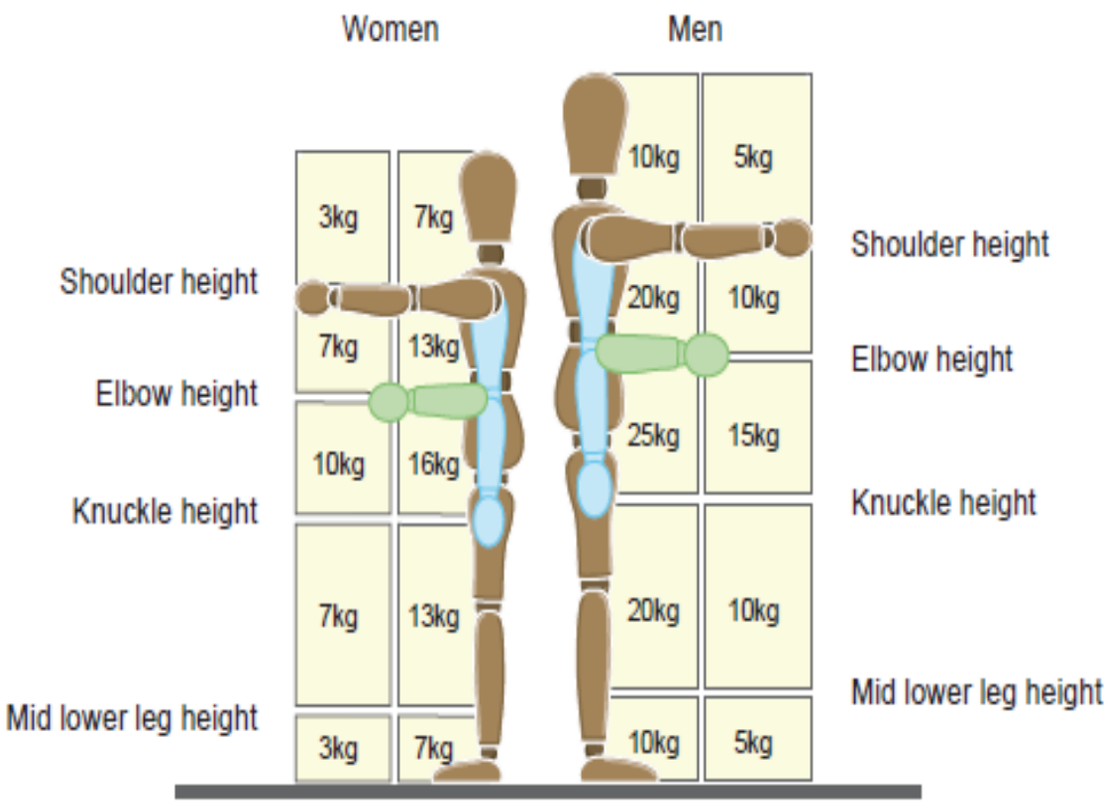
Risk Assessment

What is a Risk Assessment?

'A careful examination of what, in your work, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm.' (HSE 2006)

The MHOR 1992 states that a risk assessment is required to be undertaken if the need for a manual handling operation cannot be avoided. Once an assessment has taken place appropriate steps need to be taken to reduce the risk of injury to the lowest level that is reasonably practicable.

There is no such thing as a completely 'safe' manual handling operation, but working within the following guidelines for inanimate objects will cut the risk and reduce the need for a more detailed assessment.



Ref. Getting to Grips with Manual Handling - A Short Guide (2000)

In order to provide safe systems of work, risk needs to be assessed. There is always a risk of accidental injury – an accident being an unplanned, unanticipated or uncontrolled event.

The risks associated with manual handling may be in the areas of:

- **T**ask/procedure
- **I**ndividual Capability/ the Staff
- **L**oad/The Client/Patient
- **E**nvironment
- The System in its entirety

Task

There is an element of risk even when using a hoist, slide sheet or other aid – familiarity and complacency can also increase risk.

Does the moving and handling task involve:

- holding the load away from the body?
- twisting and/or stooping?
- excessive lifting/lowering or carrying over distances?
- likelihood of sudden movement (unpredictability of the patient)?
- frequent or prolonged physical effort?
- static, fixed or awkward postures?
- inadequate rest or recovery periods (potential for postural stress)?
- handling while seated?
- team handling (potential for poor communication)?

Individual

Accidents may occur when individual staff members are mis-matched, have their own health needs, lack training and practice, or are constrained by clothing or space.

Does the moving and handling task:

- require particular strength, height, flexibility, co-ordination, etc.?
- require special knowledge, e.g. equipment use or training?
- require special consideration when planning?
- pose a risk to pregnant employees or those with a health problem?
- pose a risk to staff with a previous medical history of musculoskeletal problems?

N.B. Under legislation in the MHOR 1999, the employee has a duty to notify managers of pregnancy and also health issues which may be covered under the Disability Discrimination Act.

Load

Factors individual to the child must be considered:

- the child's weight and size - even repetitive light weight handling has a cumulative effect and can increase the risk of injury;
- is the child difficult to hold?
- does the child have unpredictable behaviour, movements, spasms?
- does the child understand what is about to happen?
- is the child able to assist in any way?
- does the child have any attachments, e.g. IV drips, drainage tubes, gastrostomy, tracheostomy?

- the nature and influence of the child's diagnosis or disability – pain, muscle power, active control, contractures, deformity, muscle tone, etc.
- what does the child need and want to do?

Environment

This should be as hazard-free as possible. Preparation of the environment and time taken in planning the manoeuvre can resolve many challenges and issues.

Are there:

- space constraints?
- uneven, slippery or unstable floors?
- varied floor levels or surfaces (steps, slopes)?
- extremes of temperature, humidity, etc.?
- poor lighting?
- high noise levels?
- poor work stations?

The Whole System

When working with children, physiotherapists may have to consider the impact of emotional and psychological factors on the child and parents/carers, and the impact of these on handling. The impact of complex equipment and care routines may also be important factors when completing a risk assessment:

- does the system require a variety of equipment to perform the task?
- does the equipment work?
- is the equipment easily accessible when needed?
- is there adequate training in its use?
- is it safely stored, regularly maintained and serviced?
- does the equipment fit in with the child's future development, encourage independence and is it acceptable to everyone involved?
- is there adequate moving and handling training in place?
- are there periods of concentrated handling when risk of injury may increase?
- are there individual care plans available?

In risk assessment the aim is to identify the likelihood of an accident and injury occurring and reduce the risk by planned and controlled intervention.

Once all of these elements have been assessed and the risks identified and recorded, employing control measures will reduce those identified risks to the lowest possible level.

ASSESS → RECORD → CONTROL → REDUCE → REVIEW

Realistically, if the risk cannot be reduced to an acceptable level staff must comprehensively document the problem and notify the management immediately. A balanced decision is then needed by all involved to set up an interim plan, e.g. lifting into a standing frame might be replaced with plinth work temporarily, until a solution is found.

Management have a responsibility to ensure safe practices of work are in place – but they need to be alerted to any which are not.

Manual Handling Risk Assessments
&
Individual Manual Handling Plans

Individual manual handling plans must be documented as appropriate when any task involves a moving and handling procedure. These must be kept under regular review. The frequency of re-assessment will depend on the changing nature of the child's condition. This may be daily in an acute situation but as infrequently as termly or annually (maximum time frame) where a child has a relatively unchanging impairment. However, each handling situation is unique as there may be subtle changes occurring in both the child and the handlers.

Q: When is it necessary to complete a risk assessment form?

A: *In any situation where a child cannot independently move himself – this may mean the child needs minimal assistance up to and including being totally dependent.*

Q: Who should complete the form?

A: *This may be a key nurse, carer and/or the physiotherapist in an acute situation; education staff in conjunction with the physiotherapist and occupational therapist in the school environment; the physiotherapist in conjunction with carers, children's services or health occupational therapist in the home environment. In any of the above situations specialist advice may also be sought from a moving and handling advisor.*

Collaboration between staff carrying out the day to day handling of a child is essential to ensure the safest possible means of handling.

When training carers, physiotherapists are responsible for the advice they give and must use their professional judgement over the manoeuvres they ask carers to carry out. Physiotherapists must assess the competencies of the staff they delegate tasks to, and document and review accordingly. Physiotherapists need to be aware of the fine line between therapeutic handling as part of a physiotherapy programme and handling procedures to be carried out on a day to day basis by unqualified staff.

Guidance on the Use of Manual Handling Risk Assessment and Individual Manual Handling Plan

A Manual Handling Risk Assessment and Individual Manual Handling Plan template is available for APCP members to download from the APCP website - www.apcp.org.uk

APCP gives permission for members to use and adapt this form as required for use in their workplace. Guidance on completing the forms can be found below with an example of a completed Manual Handling Risk Assessment and Individual Manual Handling Plan on the following pages.

Section 1: Summary of Manual Handling Tasks

Section 1 is used to summarise all manual handling tasks for the child (regardless of how small) according to the situation/location where the tasks are to be carried out. Dates of applicable risk assessments/manual handling plans and review dates should be added when these are completed.

Section 2: Child Profile

The child's profile should be completed, giving information that is relevant to, and likely to impact on, manual handling. Anyone reading the profile should be able to judge the child's level of dependence from the information given. Section 2 needs only be completed once, but should be reviewed regularly.

Section 3: Assessment of the Task, Environment, Carer/Staff Capability

Section 3 should be completed alongside Section 5 for each separate manual handling task that is required for the child. Section 3 assesses each task according to TILE. Proposals to reduce risks should be identified. Requirements for equipment, training, etc. should be specified.

Section 4: Risk Assessment Sheet

The risk assessment sheet looks at the work activity or the area of workplace assessed listing the hazards, people involved, risk levels, and control measures needed to reduce the risk. One sheet needs to be completed for the child and a second sheet for the staff/carers.

Calculating the Residual Risk:

Residual Risk = Severity (Risk Rating of Injury) x Likelihood

Risk Rating of Injury:

Rating 1: slight injury - all injuries not defined as serious or major;
Rating 2: serious injuries - injuries that are not major, but are likely to prevent someone working normally for more than 3 days;
Rating 3: major injuries, e.g. fracture of a bone, amputation, serious injury to any part of the body, or death.

Likelihood Ratings:

Rating 1: low – unlikely to happen;
Rating 2: medium – could well happen;
Rating 3: high – certain or nearly certain to happen.

All tasks with a risk rating of 4 or more require details of further control measures to reduce risk and date of implementation.

Section 5: Manual Handling Plan

Section 5 should be completed for each individual task, giving specific details of how the task is carried out, and any specific instructions to carers. Information regarding remaining problems and measures required should be given. Section 5 provides a simple step by step guide for all carers involved with the child. This should be kept where it is accessible to all those who have involvement with the child and who are required to carry out any of the moving and handling tasks.

It is important that the Risk Assessment and Manual Handling Plan are signed off by both the assessor and, if tasks are carried out in premises other than a child's home, the manager with responsibility for health and safety at the location, as they have shared responsibility in the process. Parents may also wish to initial the completed assessment.

The end of the assessment is only the beginning of the evaluation of the handling practice. It is essential at this stage to set a review date to reassess the manual handling status of the child, bearing in mind progression of the condition, growth, surgery and other influences which may affect the child's level of functional ability.

It is important to ensure that staff are regularly updated on handling techniques, equipment available and changes in legislation, to enable them to carry out 'safe handling', thus protecting themselves, their colleagues and the children and young people in their care.

Standard Operating Procedures (Generic Assessments)

In some areas standard operating procedures are used. A Standard Operating Procedure (SOP) is one in which task analysis can be carried out and risks identified and documented, for any particular activity, with regard to the general population. This can then be used as a base line assessment or guideline, from which to add specifics about an individual child's needs in that particular scenario. These tend to be generic movements.

A child with a physical disability may require all areas in the risk assessment of tasks to be addressed. This would seem to be an enormous amount of work to be carried out, but in practice, if Standard Operating procedures are done and a file is held in each area for easy reference, the individuals form may merely state – as 'SOP assessment'. Those completing the SOP must demonstrate their clinical reasoning for such action and state why specialist support or information is not required.

Manual Handling Risk Assessment and Individual Manual Handling Plan

Name of child/young person: William Smith **D.O.B:** 28.04.00

Are there tasks that involve manual handling (moving and handling)? Yes

Are manual handling risk assessments / manual handling plans required? Yes

N.B. If the answer to above question is 'no', the assessor should indicate if it is envisaged that a manual handling risk assessment will be required in the near future and indicate a date for review.

Section 1: Summary of Manual Handling Tasks

Task	Location	Level of dependence	Equip / no. of people required	Date	Review Date	Updated Plan	Manager initial
Transfer from wheelchair to gait trainer and return to wheelchair or classroom chair	Open area, nursery	Maximum assistance	2 carers	30.01.07	At IEP meetings or before if anything changes (by June 2007)		HT
Transfer from classroom chair to wheelchair	Open area, nursery	Maximum assistance	2 carers	30.01.07	At IEP meetings etc.		HT
Transfer from wheelchair or classroom chair to floor and return	Open area, nursery	Maximum assistance	2 carers	30.01.07	At IEP meetings etc.		HT

List compiled by: Jane Brown (School Assessor)
Date: 30/01/2007

Section 2: Child/Young Person Profile for Manual Handling Assessment

Name of child / young person: William Smith **D.O.B:** 28.04.00

Diagnosis: Cerebral Palsy

Age: 6 years 9 months **Weight:** 17kg **Height:** 115cm

COMPREHENSION		Additional Information	COMPLIANCE		Additional Information
Good			Co-operative		Often cooperates particularly with known routines, but may choose not to!
Limited	⇦		Uncooperative		
Very Limited			Unpredictable	⇦	

COMMUNICATION		Additional Information
Good		William has a little verbal communication and lots of effective body language
Limited	⇦	
Very Limited		

LEVEL OF DEPENDENCE		Additional Information
Able to weight-bear		
Inconsistent weight bearing ability	⇦	
Unable to weight-bear		
Full sitting balance	⇦	Relatively new skill
Some sitting balance		
No sitting balance		
Able to assist		
Limited ability to assist	⇦	e.g. can roll and walk short distances with support if he chooses.
Not able to assist		
Totally dependent		

OTHER RELEVANT ISSUES		Additional Information
Medication		
Epilepsy		
Fatigue		
Fear		
Pain		
Skin condition		
Fragility		
Muscle spasms		
Contractures	⇦	Knees and stiff right arm
Dislocations		
Fixed physical impairment		
Sensory loss		
Other - please specify	⇦	Very ticklish – has an impact on moving and handling – BEWARE!!

EQUIPMENT AND APPLIANCES NORMALLY USED BY CHILD / YOUNG PERSON

- Manual wheelchair
- Gait trainer
- Neptune classroom chair

Section 3: Assessment of the Task, Environment and Carer/Staff Capability

Name of child / young person: William Smith		**D.O.B.** 28.04.00
THE TASK	**No. of people**	**Equipment currently used for task**
Transfer from wheelchair to gait trainer / return to wheelchair or classroom chair	2	None

Does the task involve:		**Additional Information**
Holding away from the trunk	⇦	Remember good posture and to keep close to William
Twisting	⇦	
Stooping		
Reaching upwards		
Carrying		
Strenuous pushing/pulling		
Unpredictable movement	⇦	William may choose to weight bear
Frequent handling		
Insufficient rest or recovery time		

THE ENVIRONMENT - specify the environment(s) in which the task takes place		Nursery
In this environment are there:		**Additional information**
Space constraints affecting posture		
Obstacles	⇦	Ensure that there is space all around, and arrange equipment in a suitable way
Variations in level of floors and work surfaces		
Uneven, slippery or unstable floors		
Poor lighting		
Extreme temperatures / humidity		
Other		

CARERS / STAFF		
Do carers / staff need:		**Additional Information**
Significant strength		
Special training		All staff should have up-to-date manual handling training
Would the task increase risks for those who are pregnant or have a health problem		Staff should inform manager if pregnant so that workload can be risk assessed and altered accordingly

RECOMMENDATIONS FOR REDUCING RISKS
Try using a wheeled stool for support staff to sit on
OTHER EQUIPMENT REQUIRED
Moving and handling training and refreshers
TRAINING REQUIRED
Moving and handling training and refreshers
ASSESSORS: JB, PT, OT

Section 4: RISK ASSESSMENT SHEET - Sheet 1

SERVICE: Education	**ACTIVITY ASSESSED:** Manual handling transfers with William Smith	**NAME OF ASSESSOR/S:** JB with PT, OT
AREA:	**DATE OF INITIAL ASSESSMENT:** 30.01.07	
LOCATION: Nursery	**REVIEW DATES:** June 2007	

STEP 1	STEP 2	STEP 3	STEP 4			STEP 5
Potential Hazards	**Those at Risk**	**Existing Controls** *(or note where the information may be found)*	**Calculate the residual risk taking the presence and effectiveness of control measures into account:** **Severity x Likelihood = Risk Rating** **1 -3**	**1 - 3**		**Further control measures necessary to reduce risk to an acceptable level AND date of introduction of these measures**
Cumulative strain/injury due to manual handling	Staff who work with William	Staff have had Moving and Handling training/postural awareness	2	2	4	Recommend always have 2 carers for all moving and handling tasks – with immediate effect
Injury from trip or fall		Staff are familiar with equipment	2	1	2	‘Step’ to be made for transfer to wheelchair – asap (PT)
Injury from collision		Staff are aware of and are sensitive to William’s condition and ability	1	1	1	Footplate on classroom chair to be fixed – asap (PT)
		Staff teamwork				Adaptations and equipment required in toilet (OT)
		Manual handling risk assessments and manual handling plans				

NOTE: Risk ratings of 4 or more are significant and require action.

Manager’s signature: *Anne Morris* (Head Teacher)
Date: 04.02.07

Section 4: RISK ASSESSMENT SHEET - Sheet 2

SERVICE: Education	**ACTIVITY ASSESSED:** Manual handling transfers with William Smith	**NAME OF ASSESSOR/S:** JB with PT, OT
AREA:	**DATE OF INITIAL ASSESSMENT:** 30.01.07	
LOCATION: Nursery	**REVIEW DATES:** June 2007	

STEP 1	STEP 2	STEP 3	STEP 4			STEP 5
Potential Hazards	**Those at Risk**	**Existing Controls** *(or note where the information may be found)*	**Calculate the residual risk taking the presence and effectiveness of control measures into account:** **Severity x Likelihood = Risk Rating** **1 - 3**	**1 - 3**		**List further control measures necessary to reduce risk to an acceptable level <u>AND</u> date of introduction of these measures**
Injury from trip or fall Injury from collision	William	Staff have had Moving and Handling training/postural awareness Staff are familiar with equipment Staff are aware of, and are sensitive to, William's condition and ability Staff teamwork Manual handling risk assessments and moving and handling plan.	2 2	1 1	2 2	Recommend always have 2 carers for all moving and handling tasks – with immediate effect 'Step' to be made for transfer to wheelchair – asap (PT) Footplate on classroom chair to be fixed – asap (PT) Adaptations and equipment r*equired in toilet (see sheet 1)*

NOTE: Risk ratings of 4 or more are significant and require action.

Manager's signature: *Anne Morris* (Head Teacher)
Date: 04.02.07

Section 5 *INDIVIDUALISED MANUAL HANDLING PLAN*

SERVICE: Education	**ACTIVITY ASSESSED:** Manual handling transfers with William Smith	**NAME OF ASSESSOR/S:** JB with PT, OT
AREA:	**DATE OF INITIAL ASSESSMENT:** 30.01.07	
LOCATION: Nursery	**REVIEW DATES:** June 2007	

Task /procedure:	Transfer from wheelchair to gait trainer/return to wheelchair or classroom chair
Equipment needed:	Wheeled stool, step
Method(s) to be used:	**Wheelchair to gait trainer:** • position wheelchair with space all around it and apply brakes • remove foot straps and footplates • position gait trainer at a 90 º angle to the wheelchair • apply brakes and remove arm rests • one carer is positioned close to William at the front of the wheelchair, kneeling or sitting on wheeled stool, while second carer is at the back of the wheelchair close to the gait trainer • remove William's harness • move him forward on his seat until his feet reach the floor • carer at back removes wheelchair (and assists front carer to support William • front carer supports William to pivot into position in his gait trainer • secure saddle seat of gait trainer and adjust straps • secure chest strap • replace arm rests if wished **Gait trainer to wheelchair or Neptune classroom chair:** • if using Neptune chair, ensure that it is in the lower position with the footplate down • if using wheelchair, ensure that footplates are off and 'step' is in position • align gait trainer and wheelchair/classroom chair at 90 º angle, and ensure brakes are applied to both • remove arm rests of gait trainer • carers take up the positions described above, at front, kneeling or on wheeled stool, and at back • remove chest strap • loosen straps on saddle seat and remove • front carer supports William to step forward, encourages him to step on to 'step' or footplate, assists him to pivot and sit in chair • back carer removes gait trainer and moves in to assist

	• secure all straps, harness etc. • replace footplates if using wheelchair
Specific instructions for carers / staff:	• **ensure that 2 carers are available for these transfers** • communicate with William throughout the transfers • encourage William to 'stand tall' • Neptune chair should be in the lower position for transfers and in the higher position with handle for moving it • be aware of your posture, try not to stoop or twist
Remaining problems and further measures:	• 'step' needed for W. to stand on when transferring back to wheelchair – **PT** • footplate on Neptune chair won't stay in the 'up' position, needs fixed – **PT**

Note:

Employers are responsible for provision of manual handling training, training in the use of equipment provided by them and reducing the risk of injury to the lowest possible level. Employees should take responsibility for their own posture and personal safety, and should not compromise the personal safety of their colleagues. **Employees must ensure that they use equipment that has been provided to reduce manual handling**

Principles of Handling

Whenever possible, intervention should involve minimal lifting and safer handling. Therapeutic aims, and moving and handling needs, should be considered together to maximise the potential of the child.

Avoid manual handling tasks whenever possible - always question the purpose of the manoeuvre and whether the child can assist in any way.

N.B: Independent and assisted movements may have a degree of risk attached - care must be taken with regard to the carer's posture in relation to the child.

Assess the child to be moved, being aware of possible inconsistencies in performance, equipment available, and the environment before performing the manoeuvre, following the child's Manual Handling Risk Assessment and Individual Manual Handling Plan.

Reduce the level of risk involved in the manoeuvre by using equipment where possible. It is worthy of note that introduction of equipment may alter or sometimes increase the risk and thus the situation should be reviewed as soon as new equipment has been issued. Wear appropriate clothing and footwear. Remove all jewellery that has the potential to cause harm.

Review the procedure to re-assess risks and action accordingly.

Plan the moving and handling procedure - explain the manoeuvre to the child and, if working in a team, to the other carers involved. Ensure all team members are competent and have appropriate skills within their training capabilities to complete the manoeuvre. Choose one person to lead and to co-ordinate the manoeuvre. This person must take responsibility for all concerned, throughout the manoeuvre. Prepare the area in which you are working, e.g. remove any obstacles, allow sufficient space if using a hoist. Prepare the equipment, e.g. put the brakes on wheelchairs, position chairs to reduce distances to be covered during the transfer. All handlers must have a working knowledge of and appropriate training in the use of any equipment used.

Prepare yourself:

- assume appropriate stance for the task – 'soft' knees and offset base;
- position yourself close and at an angle to the load;
- ensure confidence and competence to complete the task;
- know your own limitations and never exceed them!

Think

Assess

Plan / prepare

Execute / evaluate

Practicalities of Handling Children

The following suggestions are purely a starting point for physiotherapists working with children and are presented as a baseline from which to develop practice. Further ideas and guidance can be gained by attending practical study days and through discussion with colleagues such as moving and handling advisors.

When assessing moving and handling in children there are three categories to consider:

i. an independent child (in most circumstances will not require handling assistance);

ii. a child that requires some assistance (therapeutic handling - equipment may be used);

iii. a dependent child (equipment usually used).

Always consider the relationship of the particular needs of a child and the impact these may have on the child's ability to move and to be moved by a carer.

Specific needs may include:

- sensory processing issues;
- sensory deficit (e.g. visual impairment, hearing impairment);
- perceptual problems (e.g. body awareness, spatial awareness);
- communication difficulties;
- accommodation, adaptation and adjustment problems;
- altered muscle tone (increased, decreased, fluctuating – influenced by movement or changes in head position);
- children with associated problems such as epilepsy;
- children with challenging behaviour;
- child's own wishes.

Consideration must be given to:

- how well we explain the reason for moving and give the child time to anticipate, accommodate and adjust to the change in position;
- how we use our own bodies during the manoeuvre – posture, touch, speed of movement;
- how we use our own voices – the speed of speech, the words used, the volume and tone of our voices;
- some children use total body movements to communicate which may make handling more difficult;
- some children's movements are very unpredictable and they may startle at sudden noises causing problems during hoisting or transferring;
- communication is a two way process and the child may use various methods to communicate their needs, e.g. non-verbal cues, eye movement, touch, hand movements;
- children may be anxious, fearful, or in pain and this will affect how they react to movement or to being moved.

Handling a Neonate

Developmental care is provided for premature babies to help reduce the risk of poor developmental outcomes, due to both their immature systems and their early arrival into

the external environment. It aims to minimise stressors in the environment, promote normal development, and to help parents support their child's development both in the neonatal unit and afterwards.

Within the neonatal unit much of the handling of such babies in incubators and cots is carried out at arms' length. In this situation the carers' working posture is often more of a consideration with regard to risk than the load the carer is working with. Poor static postures may have to be sustained for prolonged periods of time. A full risk assessment of the work place is therefore essential and equipment provided, e.g. perching stools, to help minimise the risks.

Handling a Baby

When working with babies and very young children, because of their developmental age, it may be necessary to work at floor level depending on the treatment location. Wherever possible, the baby should be handled at a raised level, but never left unattended.

When handling babies on the floor the carer should kneel or sit to prevent stooping. Moving and handling equipment such as kneeling stools can be provided to make kneeling more comfortable during treatment.

When picking a baby up from floor level, the carer should kneel by the baby and roll the baby from his back to his front to rest on the carers forearm. The carer should place the other hand up and under the tummy to give additional support. The carer can then raise the baby from the floor holding him close to their body, then rise onto one knee before standing up. For babies who may stiffen and extend, it may be advisable to curl the child into flexion on the carers lap before standing up. Further assessment and planning may be needed if the carer has difficulty kneeling.

[Bower, E (Ed) 2009. Finnie's Handling the Young Child with Cerebral Palsy at Home offers detailed advice on handling children who do not have normal muscle tone.]

Depending on developmental age and head control, babies may be carried facing the carer, nestling in to the carer's body, or alternatively the older infant may be comfortably carried facing out or away from the carer. Carrying a child facing the carer with legs astride one of the carer's hips may produce an asymmetrical posture and may be stressful on the carer's spine.

When picking up a baby from a cot, the cot side should be lowered before beginning the manoeuvre. The carer should stand, with one foot in front of the other, with knees 'soft', close at an angle, facing the baby. The carer should place one hand underneath the baby's body and the other hand around the shoulders giving support to the head if necessary. As the carer's knees are straightened the baby is raised up and brought towards the carer's body. Hands and stance are then adjusted as necessary. To place the baby in the cot the procedure is reversed.

The use of travel cots and play pens can present a higher level of risk to the carer due to the restricted accessibility of the cot from the side, the height variance when lifting the child into or out of the cot, and the posture assumed by the carer.

The procedure for handling a baby in and out of a car varies greatly as there are now so many different types of vehicle in everyday use and it is therefore recommended that each situation is individually risk assessed. Carer's should always follow manufacturer's instructions with regard to the safe placement of children in vehicles and should be aware of current legislation regarding transportation of children in vehicles.

The following is a general guide when using a four door car. When placing an infant into a child seat fixed in the rear seat of a car, prepare the environment first by moving the front seat as far forward as possible, and open the rear door as wide as possible. Hold the child close in to carer's body and step in to the car. Do not reach in at arms' length and twist as this places severe strain on the spine. Once in the car, place the child into the car seat and secure firmly with safety straps. Reverse the process when removing the child from the car.

Handling a Toddler

Carers should be aware of the cumulative effect of handling young children. During any one day there may be as many as twenty different handling procedures required to meet the needs of an able-bodied young child, e.g. bathing, toileting, dressing, into and out of cot/bed, into and out of buggy, into and out of high chair, into and out of the car.

Care must be taken when carrying even small toddlers for long periods or over long distances and this should be discouraged wherever possible.

Mobile toddlers are able to assist actively in the process of moving from floor level, climbing into and out of buggies, seats and car seats.

When moving from the floor the carer should assume a half kneeling position, or sit on a chair and allow the mobile child to climb up onto the lap.

If caring for two or more young children or children with disabilities, the cumulative effect of repeated handling procedures increases still further the risk to the carer.

A less mobile or dependent child will require a risk assessment and individual manual handling plan set in place and consideration of the use of a hoist, specialised seating and other equipment.

When handling a dependent toddler in and out of a car, specialist swivel car seats are now available which make transfer much easier. Once again an individual assessment is essential.

Handling an Older Weight Bearing Child

An important goal of physiotherapy is to teach the child with some weight bearing capacity to assist with transfers. Reference should always be made to the child's physiotherapy programme and individual manual handling plan prior to intervention.

Children will often be able to move from sitting to standing independently using a fixed bar, stable surface or walking aid.

A child who can half kneel - stand from the floor may be able to swivel round to sit on a chair. The chair should be placed on the foot flat side of the child's body. Children wearing orthoses and children with certain diagnoses may need to learn special ways of getting up off the floor, depending on individual capabilities. If a child is unable to get up from the floor equipment should be used to assist them to stand. This is a complex and sometimes controversial area and will involve assessment of equipment to find the most suitable for the child and their individual needs.

When assisting a child to walk with a walking aid, a wheeled stool for the helper to sit on prevents stooping and makes it easier to assist the leg position and stepping.

N.B. The carer should never lift the child when sitting on a wheelie stool due to the instability of the base of support and high level of risk.

If the child begins to collapse during walking he should be assisted gently to the floor, whilst protecting his head, rather than pulled to standing.

Turntables may be useful when carrying out standing transfers into cars from wheelchairs. These may be used to stand on when rising up from the wheelchair to assist turning before sitting down into the car or, on the car seat itself, to ease the body around as the legs swing in or out. Cars can be adapted to accommodate wheelchairs to negate the need for transfers in this situation.

Handling a Dependent Child

Moving and handling a dependent child beyond the 'toddler' stage becomes increasingly hazardous, as height and weight increase and the array of postural and mobility equipment required to meet the child's needs becomes greater. At this level of ability whenever possible, handling equipment should be considered. An appropriate hoist should always be considered as first option – see Appendix One: Guidance on the use of hoists.

However, it is important to consider how the child will be transferred when equipment is not readily available, e.g. travel to and from school or on a school trip. A risk assessment and an individual moving and handling plan will be required in these situations. It is important to liaise between health, social services and education staff to ensure the child's equipment is compatible in different situations.

Any child who is very immobile can be moved in lying from side to side, prone to supine, or supine to prone using slide sheets where staff have been appropriately trained.

Wheelchair accessible transport will need to be considered in the home and school situation.

Handling a Child with Challenging Behaviour (or falling child)

It is important to use effective communication skills when working with a child who has challenging behaviour. There is a fine line between moving and handling issues and behavioural issues and therapists need to work very closely with those who know the child well and who may have strategies to prevent dangerous handling situations arising.

If the child is prone to collapsing on the floor - no attempt should be made to 'lift' them to standing if they are in a safe situation. If left alone the child may eventually get up, if able, on their own. If however, they are in an unsafe place when this happens the priority is to ensure their safety and that of the carers and this may require an emergency handling procedure to move the child to a place of safety.

Team Teach states that if the child is endangering themselves, others or property a physical intervention may be required to resolve the situation safely. Strategies need to be employed to reduce the risks of this happening such as the use of a wheelchair or buggy to transport the child safely from A to B. Once in the place of safety the child may be free to mobilise on their own. Often there is a need for compromise and balanced decision making in these situations.

N.B. Team Teach provides training to staff groups in Children's and Adult Services & Health Care Trusts in behaviour support and interventions. The training combines both theory and practice, providing a risk assessment structure to the selection of physical interventions that best allow the employer to provide a safe workplace for service users and staff.

Moving and Handling Children in Schools

The School's Responsibility

It is the responsibility of the Head Teacher to ensure that safe systems of work are in place for moving and handling pupils. Head teachers are also responsible for facilitating the risk assessments and moving and handling plans in conjunction with the team around the child.

Equipment such as hoists, slings, variable height changing tables, sliding sheets and boards should be provided, according to need, by the Education Authority. It is the responsibility of the school staff to ensure that all equipment is in good working order, is regularly serviced, and has the LOLER inspection date visible. School staff also have a responsibility to ensure that hoists are charged and used in accordance with manufacturer's instructions. Manual handling aids are not a health need for the child but intended to protect education staff from possible injury and their provision is the responsibility of the employer.

Physiotherapists may face situations when responsibilities for equipment provision and funding are not always this clear. For example provision of a chair that moves a young person into a standing position may eliminate the need for a standing frame, reduce transfers and moving and handling risks but may present staff with a funding dilemma. Joint agency working and collaboration is needed to resolve such issues. Where it is difficult to get this point across the Health and Safety Officer for the Education Authority may be able to give advice; failing this the Health Trust Manual Handling Advisor may be able to clarify the situation. Training of education staff involved in manual handling should be provided by the Education Authority.

Adaptations of the school environment may be necessary and advice may be sought from the team around the child. Complex building problems will need the attention of the education surveyor. Ideally these problems should be identified and addressed on preliminary visits to the school, before placement, through transition planning often through the teacher advisory service.

The School Environment

Crowded, busy corridors and lack of classroom space increase the risk of injury both to the child and staff, and may make it difficult to store equipment needed for mobility and manual handling. Time constraints of the school timetable often cause staff to rush procedures and result in a lack of planning of manoeuvres which may increase risks taken and result in injury to both staff and children. Staff must be aware of the time needed to carry out moving and handling tasks and allow for these in the timetable.

Space for a wheelchair, walker, special furniture and adjustable height table may all help the child access the curriculum more effectively and reduce the problems of manual handling.

Physiotherapists, in conjunction with occupational therapists, can advise on placing rails to enable the pupil to be more independent in managing transfers and toileting.

The child may need an alternative form of mobility to access the school campus, and physiotherapists can advise on the suitability and provision of a tricycle, or powered

wheelchair. Transferring to this alternative form of mobility would need risk assessment and problem solving if the child cannot do this independently.

The Physiotherapist's Responsibilities

In practice physiotherapists are often asked for advice on how to move and handle pupils. Advice on specific, individual handling problems can be given by physiotherapists regarding children on their caseload. A risk assessment and individual manual handling plan must be completed for all children requiring assistance. The risk assessment is best done in collaboration between health and education staff, with education staff taking a lead.

Therapeutic handling as part of a physiotherapy programme requires additional skills and training over and above those needed for handling that is carried out routinely throughout the day and should be carried out only by therapists or staff specifically trained by the therapists.

Where unsafe practices are observed, physiotherapists have a duty to address the problem by informing the Head Teacher so that staff are aware of the need to change practice and abide by manual handling guidance. Tact and diplomacy are needed in order to affect a consensus to change, and it is important to set a good example in personal working practice.

The Statement of Special Educational Need (England, Wales and Northern Ireland) or Co-ordinated Support Plan (Scotland)

The manual handling needs, both current and future, of a pupil, should be defined in the Physiotherapy Advice of the Statement of Special Education Need, to allow adequate planning of provision. (See APCP 2009 Guidance for Physiotherapists: Giving Advice for Children and Young People with Special Educational Needs).

Annual reviews provide an opportunity to document changing needs, e.g. under 'physical requirements': 'pupil now requires hoist or two trained people for handling needs'; under 'transport': 'pupil now requires transportation in wheelchair to avoid manual handling problem'. The physiotherapist is often the person who can highlight the need for equipment or training at the review.

Moving and Handling at Home

Parents and carers are not protected by the Manual Handling Operations Regulations in their own homes, but it is the responsibility of the professional team involved with the family to ensure that carers are not put at risk of injury when handling their child.

The physiotherapist advising parents should give clear instructions on how to carry out the therapeutic programme and how to manage the child's physical problems safely within the context of the home situation. Advice given should be documented and updated regularly.

When difficulties are foreseen, such as problems with bathing, toileting and daily living activities, referral should be made to the Children's Services (Social Services) and/or Health Occupational Therapy Services, who will assess the need and arrange for the provision of equipment and any adaptations necessary in the home.

Respite carers/child minders may also need advice and the necessary equipment to enable them to position and handle the child safely.

The physiotherapist's opinion of the child's future mobility needs and capabilities will help inform Children's Services (Social Services) and The Housing Department in planning adequate provision for the future.

Potential moving and handling needs should be addressed and discussed with parents and other agencies as soon as possible.

Choices, such as a through floor lift, stair lift, ground floor extension, will be governed by a number of factors including finance but should also be planned to allow the child the maximum future independence with the minimum of effort and risk for carers.

Moving and handling risk assessments and individual care plans should be completed for the child in the home using the formats previously discussed for the school, hospital or physiotherapy centre.

Special Situations

There are several situations when working with children with disabilities that will require individual risk assessment and special consideration. Some of these are included here.

The following are suggestions only, and given as examples of how problems may be solved. Safe systems of work must be devised according to the task and the particular environment, with due regard for the individual child and the carers capabilities. These procedures should be risk assessed and individual manual handling plans should be put in place.

Tricycles

A child who can weight bear may be able to hold the handlebars and stand on one leg while the other leg is guided over the crossbar. A second helper, or block or chuck may be needed to steady the tricycle. The child may then be able to place one foot on the pedal and push against it to rise up on to the saddle. Children unable to do this may be helped by standing on a foot block which brings their hips to saddle level and they can then be helped sideways on to this.

Less mobile children will need to be hoisted on to the tricycle and there are a number of hoists and slings that can do this. Helpers should kneel on one knee or use a wheelie stool, if guiding the child's legs rather than stooping.

N.B. Mobility aids or walkers with saddle attachments or abduction pads can present similar problems.

Upright and Prone Standers

A single person assist is only possible where most of the conditions in the TILE assessment are ideal. Ensure the brakes of the standing frame are on. For the small child it is easier to start with the child in a sitting position, or sitting on the carer's lap close to the frame. The child's feet are lowered to the base of the frame while the child is assisted or facilitated into a standing position and the pelvic strap secured first, followed by trunk and foot straps. Where it is necessary to put on a pelvic strap first (or leg gaiters), do this on a raised surface (plinth), then the child can be manoeuvred down into the standing frame rather than raised up from floor level which presents a much higher risk.

A two person assist is more probable. Where possible bring the standing frame close to the front of the child seated in a chair or wheelchair and place the child's feet on the base of the frame. Ensure the brakes of both the standing frame and the wheelchair, are on. A carer stands on each side of the child and assists in bringing them up into a standing position. One helper supports the child in a standing position in the frame while the other secures the straps, starting with the pelvic strap. If the pelvic strap has to be put on first, it may be possible to do this while the child is seated in the wheelchair, otherwise a raised surface such as a plinth should be used, and then the child manoeuvred down into the frame.

If the child does not have the ability to assist from sit to stand, a standing sling and hoist should be used. Consideration of the distance the child/staff have to move on a horizontal plane should also be considered.

Supine Standing Devices/Tilt tables

Where a prone or upright stander is not suitable, e.g. a child may have flexion contractures or poor head control or they are unable to achieve a totally upright position, they may need to be hoisted onto a powered or mechanical device such as a tilt table or supine stander to achieve some degree of standing. Some provide more trunk support than others. Medical stability needs to be closely monitored during use of this equipment.

Sit to stand chairs

Wheelchairs and other sit to stand devices are available which raise the child into a semi-standing/standing but weight bearing position. The child or young person may be hoisted from their own wheelchair into the sit to stand device. These can significantly decrease the amount of handling required and give the child greater access to their surroundings.

Mobility Aids

Many of the issues raised above are similarly found when using more supportive mobility aids and gait trainers.

Hydrotherapy and Swimming Pools

Issues to consider when assessing a child's moving and handling needs in a hydrotherapy pool situation include:

- designs of pool vary greatly and so do facilities for changing, showering and getting in and out of the pool;
- hydrotherapy pools should have high-low couches, chair or stretcher hoists, with guidelines for safe use of the facilities including emergency evacuation procedures;
- equipment such as handling nets, sliding boards and spinal boards should be available with a trolley at poolside;
- a ceiling hoist from changing table to pool may be considered in hydrotherapy pools;
- pools with raised sides at chair level allow sideways transfer and sloped access allows easy entry;
- steps and rails can help semi-ambulant children enter with minimal help;
- a shower/pool chair may be used for assisted entry;
- wet floors are hazardous, and sticks may present increased risks to the child when used in the pool environment; walking frames and wheeled chairs may be safer alternatives;
- the child may have to keep shoes/gaiters on to be able to get to the side of the pool independently.

Where risks cannot be reduced to acceptable levels, pool activities may have to be discontinued, either for individuals or the whole group until a solution is found, but the aim is always to find a balanced solution.

Training courses should be provided for people assisting at these sessions. Some Education Authorities will provide training on pool safety for physiotherapy staff working in special schools. Specialist staff such as moving and handling advisors may be able to give further advice.

Ball Pools and Soft Play

Ball pools are difficult to get children into and out of. Mobile children can be assisted in and out without any lifting. Mobile hoists are difficult to get close enough to bring a child

out of the ball pool unless the ball pool is on a raised platform and there is space for the hoist legs to go underneath. The safest solution for less mobile children is a ceiling hoist.

Soft play and sensory rooms need to be designed so that easy entry and exit is possible. A ceiling hoist and tracking system enables larger children to access the room.

Babies in Hip Spicas

Following surgery the baby will be receiving analgesia. A minimal handling policy is the best approach until the cast is solid. Babies should be nursed in a slightly inclined position on pillows with the feet free from pressure. Turning the child should be linked with other interventions such as feeding or nappy changing. The handling should be carried out by two people whenever possible.

The brakes of the cot should always be on. Lower the side of the cot, approaching the baby with the heavier side of the cast nearest the carer. The carer places one hand between the baby's lower limbs and up onto the small of the back. The other hand should be placed just behind the shoulders and head. Never hold or lift by the spica bar. Allow the baby time to adjust. Step stand (i.e. one foot in front of the other, facing the baby), keep the knees 'soft' and as the knees are straightened, bring the baby up towards the carer's body. The second helper can then adjust the pillows or change the linen in the cot. Adjust the hand position to turn the baby facing outwards supporting in front of carer's body.

To place the baby on his tummy, simply reverse the procedure placing the baby down as the carer's knees bend. Bring the baby's arms forwards and provide toys to play with. A pillow or wedge may be needed for comfort or support. This may not always be possible depending on the angle of the hip spica cast. If the baby has one foot encased in a cast this should not be weightbearing on the mattress at any time, to prevent pressure sores developing.

It is not advisable to use floor trolleys for young children in hip spicas, as this involves a risk for parents and carers, handling over a great height difference.

A home assessment is advisable and is often best carried out before the planned surgery takes place.

Children in Hip Spicas

Children may be placed in a spica cast for a period of weeks after major hip surgery. Handling the child in a spica is hazardous, as there is the combined weight of the child plus cast. A hoist with a fully supportive paediatric sling is the preferred option for handling and requires an extra person to help maintain the child in a safe position during the move. A slide sheet is useful for manoeuvring the child up and down the bed.

A spica chair or adapted reclining buggy (see resource list) can be used to position the child and enables the child to be moved easily, indoors and out.

Larger children may not be put in spicas after surgery to avoid manual handling problems and it is worth discussing this when the operation is planned.

Riding

An increasing number of children with special needs are having the opportunity to ride for therapy, education, recreation and sport. Many ride with the Riding for the Disabled Association (RDA), but others use commercial stables or private yards.

Facilities vary greatly but the following guidelines for mounting and dismounting should apply in all situations:

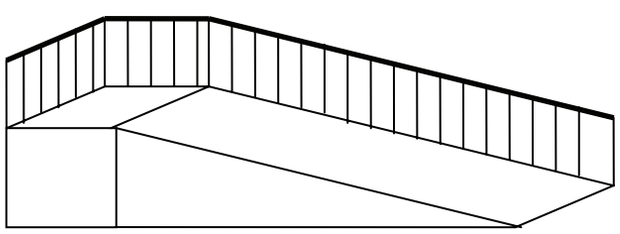
- Assess - the child, the helpers, the horse, the environment;
- Plan - the mounting/dismounting procedure, eliminating or reducing all risk - ensure adequate rests are built in between rides for carers;
- Train – the horse and the mounting team (of horse handler and side-walkers) - ensure that the horse is trained (and re-trained) to stand still by whatever mounting facility is used and is calm when the equipment is being used and ensure that all the team are trained and confident in using any all equipment, e.g. hoists, turntables, wheelchairs, etc.
- Perform - the mount/dismount (see below for methods);
- Re-assess – consider whether the task was safe, dignified and effective and whether all members of the team (including the horse) at minimal or no risk;
- Document - the procedure and set a review date.

Mounting Facilities

It is good practice to always mount from a raised surface (block, ramp etc). Mounting from the ground puts a strain on the horse, saddle, the rider and those assisting. All mounting facilities must be sited on level ground. The horse should be able to walk into the mounting facility in a straight line. The mounting facilities should be sited away from distraction and disturbance.

A mounting block - this can be a step, a purpose made block or a naturally occurring feature. It must be solid, stable and large enough to accommodate the rider or rider plus helper(s). It is best positioned so that the horse and rider 'walk on' in a straight line and do not have to immediately turn to the left or right.

A ramp and mounting platform - this is essential if the rider is to do a transfer from a wheelchair to the horse but it is also very useful for mounting at various points along its length.



Height = 2' 6" - 2' 9"
Platform = min. 4' sq
Gradient at least 1: 2

Horse in ⇒ ⇒ ⇒ ⇒ ⇒ Horse away ⇒ ⇒ ⇒ ⇒

A Pit - this is where the horse walks down to an area lower than the wheelchair level.

A Scissor lift - there are a few centres that have a scissor lift to raise the child to the appropriate height to mount the horse. The lift should be at the correct height before the horse approaches.

Hoists - some of the larger RDA centres have installed tracking hoists to mount those riders who can not easily transfer through standing. Care must be taken to ensure that the horse is well trained and familiar with the hoist which should only be used by an experienced mounting team.

Hydraulic Platforms – hydraulic platforms are now available which take a wheelchair and two other members of the mounting team. These enable any rider to access any sized horse or pony with the minimum of effort. They eliminate the need for a long ramp up to a mounting platform and take up less space.

Methods of Mounting

Direct lift from chair to pony - this method should not be readily encouraged and is only suitable for very small children on to very small ponies. The helpers must be trained in correct handling procedures by the physiotherapist or the parents.

A conventional mount (from a mounting block or otherwise raised surface) – if possible all children should be taught, by a riding instructor, to mount in the conventional manner, perhaps with assistance or modification.

Side sitting on the horse - the child who is unable to put his left foot into a stirrup and spring up into the saddle in the conventional way, can turn with his back to the saddle and then sit on the saddle and swing the right leg over the horse's neck.

A direct wheelchair transfer - from a raised surface onto the saddle through standing. Turntables or sliding boards can be used to assist these transfers *but* only as a last resort.

Hoist from the wheelchair to the horse - an access or toileting sling is best for easy removal once the child is mounted.

Methods of Dismounting

All riders should dismount directly on to the ground (not on to blocks, ramps etc.), unless there are exceptional circumstances. The rider should remove or be helped to remove their feet from the stirrups prior to dismounting.

Conventional dismount - where the rider leans forward to the right side of the horse's neck, and swings the right leg over the back of the horse and then slides down the left side of the horse ending up standing, facing the horse.

Adapted independent dismount - the rider swings the right leg over horse's neck and then rolls onto his front and slides down facing the horse.

Assisted dismount - the rider lifts the right leg over the horse's neck and (if unable to roll over) is assisted down to standing with two helpers.

A direct lift off the horse - this method is not to be encouraged and is only suitable for very small children off very small ponies.

Hoisted lift of horse - direct manoeuvre off a horse using a hoist.

N.B. In all cases a risk assessment must be carried out and full training given. Consideration should be given in the risk assessment as to how the rider could be managed in an emergency situation.

Controversial Manual Handling Techniques

There are some lifts/moves and techniques that have been recognised as unsafe for many years. Most of these early techniques involved handler's lifting all or almost all of the patient/child's body weight.

The effects of unsafe handling include:

- contribution to the development of cumulative strain and eventual injury to both handler and patient/child;
- soft tissue injury to patient/child particularly around the shoulders;
- pain for both handler and patient/child;
- a patient/child who may be less co-operative, or even resistant, when being moved in the future;
- loss of independence of patient/child;
- exposure of colleagues to injury.

Unsafe techniques include:

- The drag lift - handling the patient/child under the armpit. This can occur when handling a child on a bed or from a chair. Results in injuries to the handler's spine, shoulders, wrists and knees. The patient/child may experience injury to the shoulder and soft tissues around the arm pit. The drag lift is uncomfortable and has the potential to be very painful. The patient/child may also suffer shearing and drag forces to the skin on any supporting part of their body, e.g. bottom or heels, which may result in long term pressure sores.

- The orthodox lift - traditionally a lift used to move a patient/child up the bed. This is a full body weight lift with significant twisting and top heavy handling posture. The shearing forces on the patient/child's skin may cause long term tissue damage.

- The shoulder lift or Australian lift - previously used to move a patient/child up the bed and for bed to chair transfers. During the move the handler's posture and position result in uneven loading with the force being applied more to one side. The patient/child is relatively immobilised and cannot assist with the move. If they do push with their feet during the move they may throw the handler off balance.

- Bear hug or clinging ivy hold – patient/child's arms around handler's neck. The child will use the handler as a lever to pull against and there is a high risk of potential strain to the handler's neck.

- Full body lifts - these may include the top and tail lift, the Australian shoulder lift, the orthodox or cradle lift, and the through arm lift. They must be avoided to prevent injury to handlers and patient/child.

- Transfers from the front - front transfers are regarded as high risk to both the handler and the patient/child – e.g. pivot move, hemi-transfer, one man transfer, elbow lift, bear hug or clinging ivy lifts. These moves require considerable skill and insight from the handler and considerable co-operation from the patient/child.

- Unsafe holds - a painful hold makes the patient less co-operative and may cause significant injury to the patient/child's shoulders and upper limbs. Unsafe holds include: underarm hold; through arm hold; elbow hold; upper arm hold; palm to thumb hold.

Appendix One

Guidance on the use of hoists

A hoist is a mechanical device which can be used to transfer or reposition a child.

Hoists can eliminate the need for manually moving totally dependent children. The hoist sling offers support to the child during the manoeuvre and reduces skin friction and shearing forces incurred during a manual move. The hoist may be mobile or on an overhead track. There are also various types of standing aids and hoists with vests which allow the child or young person to stand or be supported while walking.

Using hoists and slings:

- when a mobile hoist is used it is good practice to have two people to operate it – one to work the hoist and the other to guide and re-assure the child;
- hoists are, for transfer, not transport and therefore should not be used to take a child from one room to another;
- hoists should be maintained by a recognised technician every six months or in accordance to a schedule and should carry a label that clearly displays when they were last checked;
- all staff should inspect the hoist and the sling for any obvious faults each time they use it;
- the appropriate hoist and sling should always be used for the particular task required - if a child is 'in between' hoist sling sizes, care must be taken to ensure the child's safety and comfort when selecting which size sling to use;
- staff using a hoist must have received training in its use;
- slings should be maintained and washed as appropriate (e.g. when soiled), or between children, if used for more than one child because of cross-infection risks (disposable slings are available for one patient use);
- slings should be laundered according to manufacturer's instructions;
- slings should only be used with the hoist hardware that the manufacturer recommends.

Appendix Two

Useful Addresses

Association of Paediatric Chartered Physiotherapists (APCP)
C/o The Chartered Society of Physiotherapy 14 Bedford Row London WC1R 4ED
Websites: www.apcp.org.uk and www.csp.org.uk

Association of Chartered Physiotherapists in Therapeutic Riding (ACPTR)
Secretary: Miss G Walker FCSP The Orchard, Broadlands, Lower Paice Lane, Medstead, Hampshire, GU34 5PX
Tel: 01420 562638 Email: gmwalker@lineone.net

Aidservice Ltd
Unit 15, Bradley Hall Trading Estate, Wigan, WN6 0XQ
Tel: 01257 472181 Website: www.disabilityequipment.com

Arjo
St Catherine Street, Gloucester, GL1 2SL Tel: 08702 430430 Fax: 98702 428344
Email: uksales@arjo.co.uk Website: www.arjo.co.uk

Careflex
Unit 1 Anchor Buildings, 5 Battle Road, Heathfield Industrial Estate, Newton Abbot, Devon, TQ12 6RY
Tel: 0800 0186440 Email: enquiries@careflex.co.uk Website: www.careflex.co.uk

CHUNC Wheelchairs (CHUNC Spica)
Specmat Limited, Tarsmill Court, Rotherwas, Hereford, HR2 6JZ
Tel: 01432 377 512 Email: sales@chunc.co.uk

Cromptons Healthcare
Crockford Lane, Chineham, Basingstoke, Hampshire, RG24 8NA
Tel: 01256 400620 Email: sales@cromptons.co.uk Website: www.cromptons.co.uk

Disabled Living Foundation
380-384 Harrow Road London W9 2HU
Tel: 020 7289 6111 Website www.dlf.org.uk

Ergo-ike Ltd
Elmsleigh, Featherbed Lane, Oldbury-On-Severn, South Gloucestershire BS35 1PF
Tel: 01454 417961 Email: info@phil-e-slide-uk.com Website: www.phil-e-slide-uk.com

G and S Smirthwaite Ltd
16 Wentworth Road, Heathfield, Newton Abbot, Devon TQ12 6TL
Tel: 01626 835552 Email: enquires@smirthwaite.co.uk Website: www.smirthwaite.co.uk

Halliwick AST (Association of Swimming Therapy in the UK)
c/o ADKC Centre, Whitstable House, Silchester Road, London, W10 6SB
Email: patrick.hastings@btopenworld.com Website: www.halliwick.org.uk

Helping Hand Company Ledbury Limited
Bromyard Road, Ledbury, Herefordshire
Tel: 01531 635388 Email: sales@helpinghand.co.uk Website: www.helpinghand.co.uk

Hippychick Ltd
1 Roberts Drive, Taunton Road, Bridgwater, Somerset TA6 6BH
Tel: 01278 434440 Email: info@hippychick.com Website: www.hippychick.com

Homecraft Rolyan
Nunn Brook Road, Huthwaite, Sutton in Ashfield, Nottinghamshire, NG17 2HU
Tel: 08444 124 330 Website: www.homecraft-rolyan.com

Hospital Aids
1 Kingsfield Close, Dallington, Northampton, Northamptonshire, NN5 7QS
Tel: 01604 586501 Website: www.hospitalaids.co.uk

Hospital Direct
Unit 3&4 the Green, Clun, Shropshire, SY7 8LG
Tel: 01588640144 Website: www.patient-handling.com

In Car Safety Centre
Unit 5 Erica Road, Stacey Bushes Trading Centre, Milton Keynes, MK12 6HS
Tel: 01908 220909 Email: info@incarsafetycentre.co.uk

In Car Safety Centre (Northern Ireland)
Unit 12 Agnes St Industrial Estate, Agnes Street, Belfast, BT13 1GB
Tel: 028 9074 2052 Email: info@incarsafetycentre.co.uk

James Lecky Design Limited
Design House, Upper Dunmurry Lane, Belfast, BT17 0HD, Northern Ireland
Tel: 028 90602277 Email: info@lecky.com Website: www.lecky.com

JCM
15-18 Maxwell Road, Woodsten Industrial Estate, Peterborough, PE2 7HU
Tel: 01733 405830 Email: enquiries@jcmseating.co.uk

Jenx Limited
Wardsend Road, Sheffield, S6 1RQ,
Tel: 0114 285 3376 Email: sales@jenx.com

Liko
Hill-Rom Ltd, Clinitron House, Ashby Park, Ashby de la Zouch, Leics. LE65 1JG
Tel: 01530 411000 Email: info@liko.co.uk Website: www.liko.se.uk

Mangar International
Presteigne, Powys, Wales Tel: 01544 267674
Email: sales@mangar.co.uk Website: www.mangarinternational.co.uk

Molift Ltd. (Standing Table)
Trac House, Unit 1, Woodrow Business Centre, Irlam, Manchester M44 6NN
Tel: 0844 8004236 Website: www.molift.com

Moving Solutions (UK) Ltd
Southwell Lane/Cookson Street, Kirkby in Ashfield, Nottingham NG17 8EY
Email: enquiries@movingsolutions.co.uk Website: www.movingsolutions.co.uk

National Back Exchange
www.nationalbackexchange.org

National Back Pain Association
16 Elmtree Road, Teddington, Middlesex, TW11 8ST
Tel: 02089 775474 Email: www.backcare.org.uk

Nordic Care Services Ltd.
307-309 Lombard House Business Centre, 12-17 Upper Bridge Street, Canterbury, CT1 2NF Tel: 01227 479293
Email: info@walkeze.co.uk Website: www.walkeze.info

OT Stores
The Haysfield, Spring Lane North, Malvern, Worcestershire, WR14 1GF
Tel: 0845 260 7061 Email: info@otstores.co.uk Website: www.otstores.co.uk

Quest 88 Ltd (Electric Standing Frames)
Aston Street, Shifnal , Shropshire, TF11 8DW
Tel: 01952 463050 Email: info@quest88.com Website: www.quest88.com

Radcliffe Rehab (Re: Netti Mini Spica chair)
5 The Sidings, Top Station Road, Beackley, Northants. NN13 7UG
Tel: 01280700256 Email: enquiries@radclifferehab.co.uk

Riding For the Disabled Association (RDA)
Norfolk House, 1a Tournament Court, Edgehill Drive, Warwick, CV34 6LG
Tel: 0845 658 1082 Email: info@rda.org.uk Website: www.riding-for-disabled.org.uk

Silverlea Textiles
Units 2- 4 Silverhills Buildings, Decoy Industrial Estate, Newton Abbot, Devon TQ12 5LZ
Tel: 01626 331655 Website: www.silvalealtd.co.uk

Smirthwaite
Tel: 01626 835552
Email: enquiries@smirthwaite.co.uk Website: www.smirthwaite.co.uk

SOTEV
Spreading car seats and baby carriage (for children in hip spicas)
Website: www.sotev.com

STEPS
Warrington Lane Lymm, Cheshire, WA13 0SA
Helpline: 01925 750271
Email: info@steps-charity.org.uk Website: www.steps-charity.org.uk

Sunrise Medical Ltd
Sunrise Business Park, High Street, Wollaston, Stourbridge, West Midlands DY8 4PS
Tel: 01384 446688 Website: www.sunrisemedical.com

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