Moving & Handling Strategy

An initiative of the London Group of

National Back Exchange to provide

Standards

for

Handling People and

Objects

in

Health and Social Care

Folder 7

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Appendix 11 – Inanimate load handling assessment forms

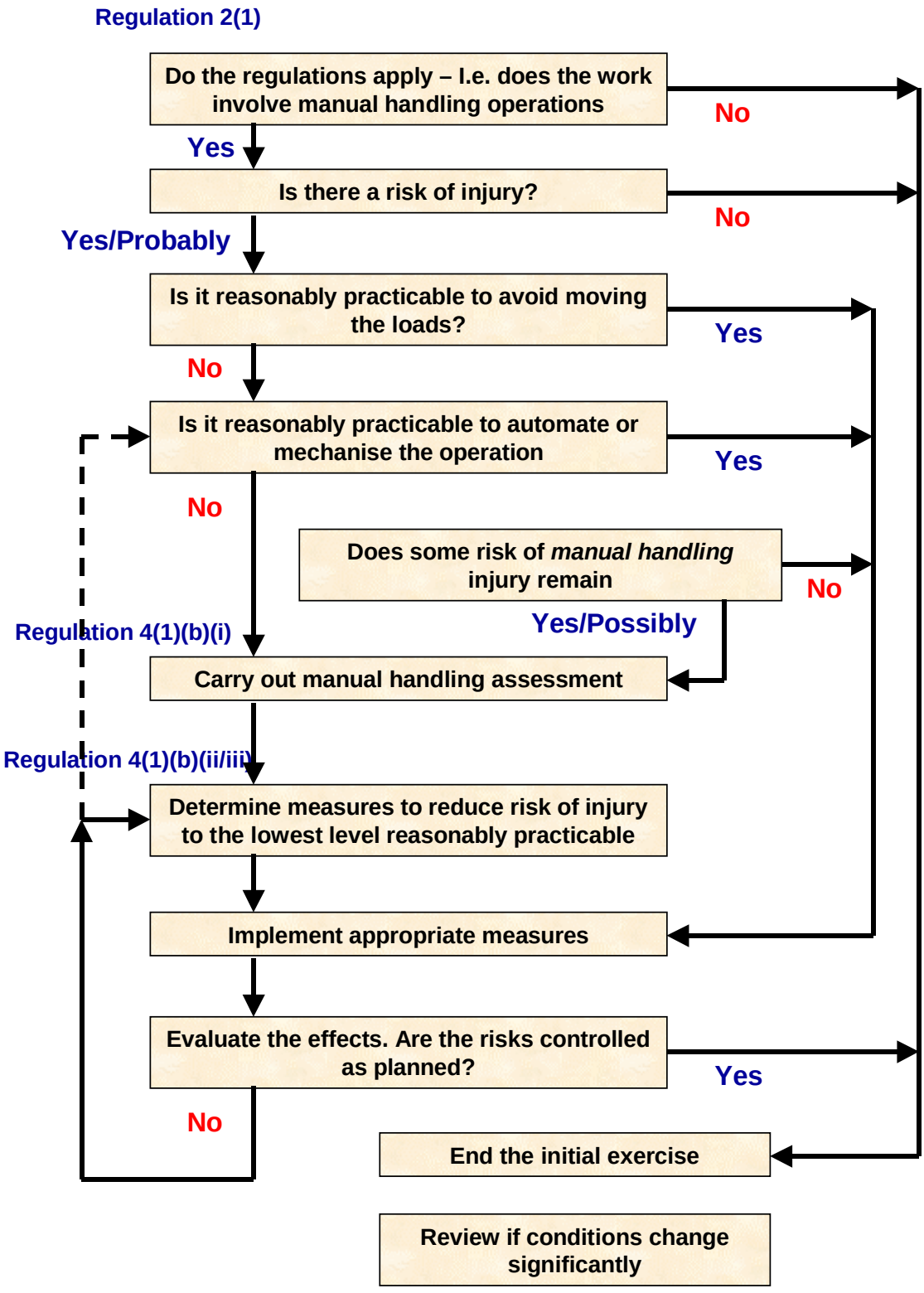
Author: David Couzens-Howard

This appendix relates to Standard B10 and Standard H1 – 'Inanimate load handling'

It has been developed by the NBELGSWP, utilising the 'T-I-L-E' format and the guidance issued by the HSE in the Manual Handling Operations (MHO) Regulations.

Readers are also referred to the MAC tool, which is also published by the HSE.
http://www.hse.gov.uk/msd/mac/

Flowchart 4 – HSE Guidance



[HSE (1998) L23 Manual Handling Manual Handling Operations Regulations (1992) Guidance on regulations (2nd edition) Sudbury: HSE Books, page 5]

RISK ASSESSMENT FOR MOVING AND HANDLING OF INANIMATE LOADS

Section A – Task identification

Identification and description of manual handling operation (MHO)_____

_____ Ref No. _____

Precise location _____ Generic/ Specific

Department/ Unit/ Team _____ Directorate/ Organisation _____

Manager _____ Assessor(s) _____

Person(s) at risk _____

Load(s)/ materials (to be) handled and moved _____

_____

Section B – Screening or filtering process

Is manual handling involved in the task, operation or process?

No → Stop M&H assessment
Yes → Continue

Are the loads to be handled outside the HSE Guidelines, bearing in mind where they are to be moved from and to?

No → Stop assessment (unless other factors indicate)
Yes → Continue

Is there a significant risk of injury, bearing in mind all relevant factors?

No → Stop (if not sure, continue)
Yes → Continue

If experience or observation indicate clearly what the main problems, hazards and risks are, proceed directly to **Section D**.
If the solutions are self-evident go straight to **Section F** on page 6.
If it is felt necessary to examine the risk factors in more detail, **go to Section C** (overleaf) and record your findings. Then return to **Section D.**

Section D – Summary of main risks

Section E – Quantification of risk

	Risk level (Value / No.)	Interpretation (L M H VH Ex)
	1 – 6	= Low (L)
	8 – 12	= Medium (M)
	15 – 16	= High (H)
	20	= V. High (VH)
	25	= Extreme (Ex)

Now go to **Section F** – Risk control measures

RISK ASSESSMENT FOR THE MOVING AND HANDLING OF INANIMATE LOADS

SECTION C – Step by step examination of the manual handling operation: looking at all hazards and risk factor, utilizing the "T-I-L-E" format.

	Questions to consider: **Hazards and risk factors** Yes = good (absence of or negligible risk), No = bad (risk present)	Yes ✓	No ✓	Detail of Hazards and Comments Make clear notes in these columns in preparation for completing section D (Indicate which item is being referred to by preceding the notes with the appropriate letter, e.g. c	. Possible Remedial Action:
1.	**THE TASKS**				
a.	Movements and postures are not extreme?				
b.	Resistance to movement is not excessive?				
c.	Movements are not combined with other movements or too complex?				
d.	Movements are not repeated too frequently?				
e.	Tasks are not required to be carried out too fast or for too long?				
2.	**THE LOADS**				
a.	Are of manageable weight? (Refer to HSE Guidelines)				
b.	Are of a manageable size not, excessively bulky and not of an awkward shape?				
c.	Have an even weight distribution?				
d.	Are well packed, with good handles?				
e.	Are in good condition, free from other risks (e.g. sharp edges, hot, cold, contaminated, or offensive etc.)?				
3.	**WORKING ENVIRONMENT**				
a.	The area is spacious and well laid out, with no awkward spaces and good access and egress?				
b.	Floors are level, even and free from trip hazards?				
c.	The ergonomics are good with well designed: - workstations, fixtures and fittings, furniture and furnishings, and well equipped for its purpose				
d.	Lighting is adequate for the task?				
e.	Temperature and humidity are acceptable and well controlled, and air quality is good with minimal air movements and draughts? Noise levels are appropriate and vibration absent.				
4.	**INDIVIDUAL CAPABILITY – The operator is/ operators are: -**				
a.	Competent? (i.e. experience, knowledge and understanding, skills)				
b.	Fit? Have a fitness level or 'Capacity' equal to the demands of the job. (i.e. flexibility, core stability, strength, cardio-vascular fitness, stamina)				
c.	Fit? Have a fitness level of 'Control' equal to the demands of the job. (i.e. co-ordination, rhythm balance, posture, agility)				
d.	Healthy? Free from previous injuries, recent operations, ongoing medical or orthopaedic conditions				
e.	Free from other personal risk factors, such as: - unusual size or body shape (Anthropometry), obesity, pregnancy, smoking, psychological factors, age (under 18 or over 55)				

Risk Score Give a point for every tick in **the No column** – Task (___) + Load (___) + Environment (___) + Individual (___) = Total (____)

Now multiply the total by 1.25 or 5/4 or 25/20 = ( ) to align with the 5 x 5 matrix. **Go to Section D →**

For greater detail and accuracy, use forms **MHTRA** for tasks, **MHLRA** for loads, **MHERA** for environment and **MHIRA** for the individual handler in **Appendix 13**.

Section F – Risk control measures

Control measure		Feasible option: ✓			Unfeasible option: ✓
		Immediate	Short - term	Long-term	
Task avoidance	Stop task (too dangerous to continue)				
	Deliver service by alternative means				
	Mechanise				
	Automate				
Re-design the task					
Modify the load					
Provide handling aids and equipment					
Ensure “good housekeeping”					
Change layout					
Refurbish					
Improve lighting					
Improve ambient conditions					
Modify the building					
Move to another location					
Provide education and training					
Provide supervision and support					
Provide personal protective equipment (PPE)					
Write new or review existing procedures or guidelines					

For greater detail, use the forms in Appendix 13: MHTRA for tasks; MHLRA for loads; MHERA for environment; MHIRA for individuals and MHOPRA for organisational and psychosocial issues.

Section G – Action plan

Immediate action
Short-term action
Long-term action

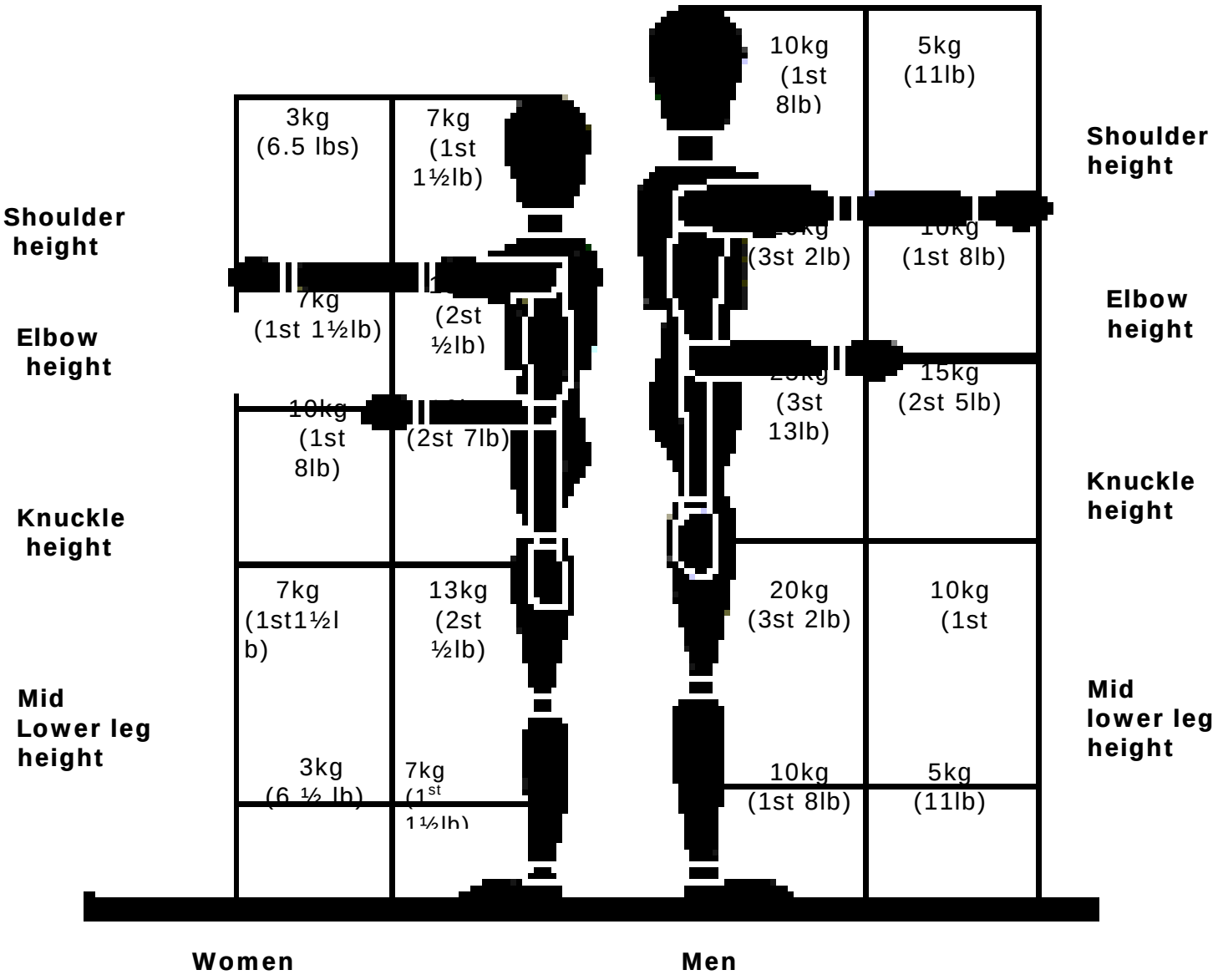
Transfer this information to a General Risk Assessment form (Form MHGRA) if necessary for registering all of the hazards and risks, the proposed control measures and a detailed action plan.

Utilise Section H, overleaf, for making extra notes, rough sketches or for the attachment of detailed drawings, digital photographs, or any extra information →

Section H – Additional information

General Risk Assessment Guidelines

Source HSE – indg143 getting to grips with manual handling (2004) by kind permission of the HSE (Open Government Licence for public sector information)



- Each box in the diagram above shows guideline weights **for lifting and lowering**.
- Observe the activity and compare to the diagram. If the lifter's hands enter more than one box during the operation, use the smallest weight. Use an in-between weight if the hands are close to a boundary between boxes. If the operation must take place with the hands beyond the boxes, make a more detailed assessment.
- The weights assume that the load is readily grasped with both hands.
- The operation takes place in reasonable working conditions with the lifter in a stable body position.
- Any operation involving more than twice the guideline weights should be rigorously assessed – even for very fit, well-trained individuals working under favourable conditions.
- There is no such thing as a completely 'safe' manual handling operation. But working within the guidelines will cut the risk and reduce the need for a more detailed assessment.

Appendix 12 – DSE/ workstation assessment

This appendix relates to Standard B11 – 'DSE/ Workstation'

Readers are directed to the Display Screen Equipment Regulations (2003), Appendix 5, published by the HSE.(http://www.hse.gov.uk/publications/book/l26.htm

Appendix 13 – Task and postural analysis tools

Author: David Couzens-Howard

This appendix relates to Standard B12 – 'Task analysis'

It has been developed by the NBELGSWP. Readers are also referred to: -

- OWAS – Karhu O, Kansi P, Kuorinka I (1977) *Ovako Working-posture Analysis System* in Applied Ergonomics Vol 8 Issue 4 p199-201
- REBA – Hignett s & McAtamney L (2000) *Entire Rapid Body Assessment* (REBA) Applied Ergonomics 31 p 201-205
- RULA – Hignett S & McAtamney L (2006) *REBA and RULA Whole body and Upper Limb rapid assessment tools* in Karwowski W & Marras WS (Eds) the Occupational Ergonomics Handbook (2nd ed) Boca Raton FI CRC Press 42-1-42-12
- Body mapping – Corlett EN (1995) *The evaluation of posture and its effects* in Evaluation of Human Work a practical ergonomics methodology 2nd ed Wilson JR and Corlett EN (Eds) London: Taylor & Francis Ch23 p687
- MAC HSE (2003) MAC INDG 383(2) http://www.hse.gov.uk/msd/mac then Manual handling assessment charts Retrieved 3rd Jan 2011

A set of tables designed to facilitate a consideration of moving & handling risks within the "TILE plus" framework are set out below.

Details of the **risk factors** associated with the task, load, environment and individual handler(s) can be provided and analysed. A non-validated scoring system is offered as a guide to the level of risk for each element.

"**TILE plus**" here means the inclusion of organisational and psycho-social issues, which should also be considered in order to gain a full picture.

A structured list of **control measures** for each element is offered for consideration.

MOVING AND HANDLING RISK ASSESSMENT FOR TASKS FormMHTRA

Task_____Ref._____Date / / Assessor_____

This assessment tool is for the analysis of a manual handling operation or task. It should not be considered in isolation; it needs to be incorporated into a full assessment that includes the other 'T-I-L-E' elements, in order to provide the 'complete picture' of risk. This assessment must take into account the use of the work area concerned.
To score the risk – consider 0 to be the best possible situation (the ideal) and 5 the worst case scenario.
A score of 1 indicates low risk and 5 the highest risk possible.

RISK FACTOR	DETAILS AND COMMENTS	RISK SCORE
EXTREMES OF MOVEMENTS AND POSTURES ~ End of range for muscles and joints – likely to strain these structures – can be partially compensated for if the individual is flexible/ mobile/ supple ~ Awkward movements and postures, e.g. twisting; stooping; over-reaching (forwards, upwards, sideways); side bending; balancing on small base – can be partially compensated for if the individual has good balance and postural awareness	Mid-range → → → → → Extremes 0 – 1 – 2 – 3 – 4 -- 5	/5
RESISTANCE ~ Due to weight of load, its centre of gravity's distance from the handler's centre of gravity and relative height (see HSE Weight Guidelines*) and/ or friction – will impose a load on muscles and supporting structures – can be partially compensated for the by muscular strength and skill of the individual	Low resistance → High resistance 0 – 1 – 2 – 3 – 4 -- 5	/5
COMBINATION AND COMPLEXITY ~ The number of elements in a task and their precise nature -- will tend to impose a great demand on the co-ordination of the individual and the structures of the body – can be partially compensated for if the individual has good balance, co-ordination as well as skill for the particular task, and has a good general health and fitness	Simple → → → → → Complex 0 – 1 – 2 – 3 – 4 -- 5	/5
FREQUENCY OF REPETITION ~ High repetition rates will impose a demand on the heart and the cardio-vascular system in general – can be partially compensated for by a good cardio-vascular fitness level ~ High repetition rates will impose a demand on muscles, joints and particularly tendons, possibly leading to RSI – difficult to compensate for, but certain types of stretches my help, as well as adequate rest periods	Low repetition → → High repetition 0 – 1 – 2 – 3 – 4 -- 5	/5
SPEED AND DURATION ~ Rates of work that are imposed and are above a natural rate (for humans and for the particular individual) – are likely to lead to fatigue, poor performance and mistakes – can be partially compensated for by good levels of cardio-vascular fitness and stamina ~ Work continued for long periods without adequate rest -- will have similar effects ~ Long periods in any one posture, especially awkward ones ~ Long carrying distances (more than 10 metres) – will have similar fatiguing effects as well as imposing additional load on the back, upper and lower limbs	Low rates of work over Short periods → → → → High rates of work over Long periods 0 – 1 – 2 – 3 – 4 -- 5	/5
	Total	/25

***** HSE Guidelines are available for lifting and lowering in a standing position (see Appendix 11). They are also available for: - > pushing and pulling; > carrying; > lifting and lowering in a seated position.
The HSE also provides aids to calculating the additional effect of twisting, etc. whilst carrying out a Manual Handling Operation (MHO).

CONTROLLING THE RISKS

Summary of areas of concern

Creating a safer system of work (SSW) – Options, the following should be considered: -

Avoiding the task and therefore the risks, altogether
Reducing the risks by re-designing the job

Avoiding the task

This may be achieved by considering the purpose of the task and examining alternative ways of achieving similar outcomes. A task may have such high risks associated with it that it cannot be justified, or, the benefits are far outweighed by even a medium risk. A service can sometimes be delivered by another means. A task may be automated or mechanised; materials can be purchased, delivered and handled in bulk; gases and liquids can be piped; electronic communication can reduce the carriage of paper files, etc.

Re-designing: -

The place of the task in the overall scheme of things, or the routine of the workplace or team
The way a service is delivered
The timing of the task – e.g. time of day
The rate or pace of work
Rest periods
Job rotation
The place or location (environment)
The number of people who carry out the task (team handling)
The type of people – their fitness and competence
Load handling equipment
Personal protective equipment (PPE)
Shift patterns
The nature and size of the loads

The provision of suitable and sufficient information, instruction, training and supervision is a vital component of a SSW.

Consider also: -

Written procedures or guidelines
Standard Operating Procedures (SOPs) for frequently repeated tasks
Agreed methods for less common tasks

MOVING AND HANDLING RISK ASSESSMENT FOR LOADS **Form MHLRA**

Load_____Ref._____ Date / / Assessor_____

This assessment tool is for the analysis of an inanimate load. It should not be considered in isolation; it needs to be incorporated into a full assessment that includes the other 'T-I-L-E' elements, in order to provide the 'complete picture' of risk. This assessment must take into account the use of the work area concerned.

To score the risk – consider 0 to be the best possible situation (the ideal) and 5 the worst case scenario. A score of 1 indicates low risk and 5 the highest risk possible.

RISK FACTOR	DETAILS AND COMMENTS	RISK SCORE
WEIGHT ~ The weight of the discrete object, or the portion of material to be moved, is one of the main risk factors. The weight gives rise to a resistance that will have to be overcome, if manually handled, by the muscular strength of the operator(s).	Very light → → → →→ Extremely Heavy 0 – 1 – 2 – 3 – 4 -- 5	/5
SHAPE AND BULK ~ Loads that have awkward shapes are difficult to hold. Think of rolls, barrels, drums, sheet material, floppy loads. ~ Loads that are bulky are also difficult to hold. For any given weight the load imposed on the operator is greater as the bulk increases because the centre of gravity is further from that of the operator. ~ Also, it may be difficult for the operator to see ahead or the floor in front and any surfaces on which to set the load down. ~ Such loads may also be subject to unpredictable movements due to sudden winds and draughts.	Small & compact → → → Large / bulky 0 – 1 – 2 – 3 – 4 -- 5	/5
WEIGHT DISTRIBUTION ~ Some objects have uneven weight distribution, e.g. television monitors. ~ In some cases the weight of an object may shift without warning.	Uniform / predictable → → Unpredictable 0 – 1 – 2 – 3 – 4 -- 5	/5
PACKAGING ~ Packaging can be well designed, or the opposite. It may be inadequate for the job – tearing or giving way, or not standing up to reasonable wear and tear. ~ Articles stored for long periods may deteriorate and the packaging may be damaged, due to dampness for instance. ~ The presence or absence of handles will make a difference to the **'coupling'** and handling. ~ Sometimes small objects are contained in large containers, or incorrect information is given.	Well packaged → → → Poorly packaged 0 – 1 – 2 – 3 – 4 -- 5	/5
CONDITION ~ The object may be difficult or hazardous to handle due to sharp edges or it being very hot or cold ~ It may be undesirable or unpleasant to handle certain objects because they are dirty, contaminated, smelly or offensive in some way. In these cases the load tends to be carried further away from the body than is appropriate from a biomechanical point of view.	Pleasant → → → Unpleasant/ Hazardous 0 – 1 – 2 – 3 – 4 -- 5	/5
	Total	/25

CONTROLLING THE RISKS

Summary of areas of concern

Creating a safer system of work (SSW) – Options, the following should be considered: -

Avoidance strategies
Load modification
Handling aids

Avoiding the task

This may be achieved by considering the purpose of the task and examining alternative ways of achieving similar outcomes. A task may have such high risks associated with it that it cannot be justified, or, the benefits are far outweighed by even a medium risk. A service can sometimes be delivered by another means. A task may be automated or mechanised; materials can be purchased, delivered and handled in bulk; gases and liquids can be piped; electronic communication can reduce the carriage of paper files etc.

Load modification

Consider procuring items or material in smaller packs
Consider breaking down the load
Consider changing the packaging
Consider better handles
Consider better labelling

Handling aids

Consider simple equipment – sack barrows, trolleys, height adjustable tables and trolleys, hoists, rollers and conveyor belts
Consider personal protective equipment (PPE) – goggles/ visors/ safety glasses, ear protectors, masks, aprons, gloves, hard toe boots

MOVING AND HANDLING RISK ASSESSMENT FOR THE ENVIRONMENT

Environment_____Ref._____ Date / / Assessor_____

This assessment tool is for the analysis of the working or clinical environment. It should not be considered in isolation; it needs to be incorporated into a full assessment that includes the other 'T-I-L-E' elements, in order to provide the 'complete picture' of risk. This assessment must take into account the use of the work area concerned. To score the risk – consider 0 to be the best possible situation (the ideal) and 5 the worst case scenario.
A score of 1 indicates low risk and 5 the highest risk possible.

RISK FACTOR	DETAILS AND COMMENTS	RISK SCORE
SPACE, LAYOUT AND SPACE UTILISATION ~ The overall size of the work area (premises, building or room) ~ Access and egress (doorways, stairways etc.) ~ The layout (relative position of major items and fixed or difficult to move elements) and the size of gangways, turning circles etc.) ~ Awkward and inaccessible spaces, including storage areas. Reduced headroom. ~ Cramped and cluttered workspaces and workstations.	Spacious and → → → → → Small and well laid out cluttered 0 – 1 – 2 – 3 – 4 -- 5	/5
FLOORS AND FLOORING ~ The type of flooring and its condition (slippery floors, worn carpets, missing tiles) ~ Changes in floor levels (slopes, steps, stairs). ~ Clutter and other trip hazards. ~ Foot room and leg room	Poor / hazardous → → → Good quality and condition and free from slip and trip hazards 0 – 1 – 2 – 3 – 4 -- 5	/5
ERGONOMIC DESIGN OF FIXTURES AND FITTINGS, FURNITURE, FURNISHINGS AND EQUIPMENT ~ Relative position of elements for work flow ~ Height of work-surfaces ~ Storage bins, shelving and cupboards requiring undesirable movements and postures to utilise. ~ Well designed and easy to use fixtures and fittings ~ Comfortable and functional furniture, that is easy to move when necessary. ~ Appropriate equipment	Well designed → → → → Badly designed 0 – 1 – 2 – 3 – 4 -- 5	/5
LIGHTING ~ User-friendly and comfortable, giving sufficient light where it is needed without dark areas, dazzle and glare, or, badly designed and deployed	Well lit → → → → → → → Poorly lit 0 – 1 – 2 – 3 – 4 -- 5	/5
AMBIENT CONDITIONS Adequate ventilation avoiding cold draughts} ~ Suitable heating and cooling} - in order to provide optimal temperatures and humidity ~ Clean, pleasant smelling air ~ Noise – that distracts, etc. ~ Vibration	Comfortable → → → Uncomfortable/ fatiguing 0 – 1 – 2 – 3 – 4 -- 5	/5
	Total	/25

CONTROLLING THE RISKS

Summary of areas of concern

Creating a safer system of work (SSW) – Options, the following should be considered: -

Housekeeping
Change of layout
Refurbishment
Improved lighting
Rebuilding
Improved heating/ cooling/ ventilation
Refurbishment
Moving to another location

Housekeeping

Keeping a workplace clean and tidy and free from clutter makes for greater safety and efficiency, primarily with regard to ease of access and reduced trip and slip hazards.

Change of layout

Arranging the various elements with reference to the work processes generally pays dividends by tending to reduce conflicting movements

Refurbishment

Attention to flooring, fixtures, fittings, furniture, equipment and furnishings, as well as décor, not only reduces hazards, but also creates an atmosphere more conducive to the purpose of the building

Improved lighting

Efficient lighting reduces hazards and creates a pleasant environment

Improved heating/ cooling/ ventilation

Inappropriate temperatures and humidity levels can have a profound effect on fatigue, comfort and working efficiency

Building modification

Unsuitable environments can be improved by changing the structural components – knocking down walls; widening doorways, changing doors etc.

Moving to another location

A working or clinical environment should be fit for its purpose. Some are not and cannot be made so.

MOVING AND HANDLING RISK ASSESSMENT FOR 'INDIVIDUALS'

Form MHIRA

Individual_____Ref._____ Date / /....Assessor_____

This assessment tool is for the analysis of an 'INDIVIDUAL', i.e. an individual handler / operator / member of staff. He/she should not be considered in isolation; the findings should be incorporated into a full assessment that includes the other 'T-I-L-E' elements, in order to provide the 'complete picture' of risk. This assessment must take into account the requirements of the job concerned.
To score the risk – consider 0 to be the best possible situation (the ideal) and 5 the worst case scenario.
A score of 1 indicates low risk and 5 the highest risk possible.

RISK FACTOR	DETAILS AND COMMENTS	RISK SCORE
COMPETENCE ~ Experience (relevant to job) ~ Knowledge } of M&H and main job ~ Understanding } ~ Manual handling skills ~ Assessment and problem-solving skills	Expert → → → → → Novice / Incompetent 0 – 1 – 2 – 3 – 4 -- 5	/5
FITNESS LEVEL (Capacity) ~ Flexibility/ suppleness ~ Core stability (main stabilisers – transverse abdominals, pelvic floor and lumbar multifidus) ~ Strength and power ~ Cardio-vascular fitness ~ Stamina/ endurance	Very fit → → → → → Very unfit 0 – 1 – 2 – 3 – 4 -- 5	/5
FITNESS LEVEL (Control) ~ Movement sense and co-ordination ~ Rhythm and timing ~ Balance ~ Posture ~ Agility	Very fit → → → → → Very unfit 0 – 1 – 2 – 3 – 4 -- 5	/5
GENERAL HEALTH ~ Health history ~ Current health/ wellbeing/ energy levels World Health Organisation definition of complete health ~ Previous injuries ~ Recent operations ~ Disability (permanent or temporary), ongoing or recurrent orthopaedic or medical problems – e.g. osteoporosis, arthritis	Well → → → → → → Very unwell 0 – 1 – 2 – 3 – 4 -- 5	/5
OTHER FACTORS ~ Anthropometry (body shape) - unusually short (under 5'0") or tall (over 6'4") - unusual limb or body part dimensions - obesity ~ Pregnancy ~ Smoking ~ Psychological/ emotional/ stress factors and Attitudes to H&S ~ Age (under 18 or over 55)	No other factors → → → → One highly significant other factor, or, several lesser factors 0 – 1 – 2 – 3 – 4 -- 5	/5
	Total	/25

CONTROLLING THE RISKS

Summary of areas of concern

Education and training
Conduct a Training Needs Analysis (TNA) and arrange the necessary training intervention.
Provide information and instruction in a variety of ways to suit the individual's learning style

Supervision and support
Supervise as necessary – directly or indirectly
Support in appropriate and diverse ways e.g. coaching, shadowing, mentoring

Job re-design and job rotation See Form MHTRA for details

Personal protective equipment (PPE)
Assess and provide as necessary – e.g. goggles / visors / safety glasses, ear protectors, masks, aprons, gloves, hard toe boots

Refer to Occupational Health Service for advice and possible:-

Assessment and Investigation
Treatment
Rehabilitation
Phased return to work
Redeployment
Early retirement

Arrange / recommend / support- Provision for fitness training

ORGANISATIONAL, PSYCHO-SOCIAL ISSUES AND OTHER CONTRIBUTORY FACTORS **Form MHOPRA**

Work Area_____ Ref._____Date / / Assessor_____

In addition to the well recognised risk factors collectively known as **'T – I – L – E'** many other factors can impact directly or indirectly on moving and handling, especially person handling. A risk assessment will only be complete if these **compounding or confounding factors** are considered as well. These factors are grouped under headings, although they tend to interact. They are difficult to quantify, so, although they contribute to the overall risk, calculations could be misleading and unhelpful. It is however important to highlight them so that they can be dealt with.

Funding

Total funding
Who pays?

External organisation

Multiagency working) Responsibility for assessment and control of
Sharing premises) risk, funding equipment, etc.
External providers of services
Other departments e.g. Cleaning, maintenance, deliveries, catering contractors

Internal organisation

Work organisation – allocation of work and methods
Shift patterns

Management, team and social

Management approach and style, leadership
Clarity of roles and responsibilities
Culture
Support and supervision

Communication

Verbal and non-verbal
Formal / written / record keeping

Other interpersonal

Group dynamics
Mutual support offered

Education and training
Competence
Development
Information and instruction (on the job training)
Formal training

Equipment (moving & handling and auxiliary)
Suitable and sufficient availability}
Provision, deployment / delivery} reasonable timeframe (minimal delays)
Maintenance and cleaning }

CONTROLLING THE RISKS AND DEALING WITH THE PROBLEMS
These issues often contribute to and complicate the picture. Although they may not constitute risks in themselves they tend to prevent the reduction of risks.
Funding

External organisation

Internal organisation

Management, team and social

Communication

Other interpersonal

Education and training

Equipment (moving & handling and auxiliary)

References

Corlett EN (1995) *The evaluation of posture and its effects* in Evaluation of Human Work a practical ergonomics methodology 2nd ed Wilson JR and Corlett EN (Eds) London: Taylor & Francis Ch23 p687

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Hignett, S and McAtamney, L (2006), REBA and RULA; Whole body and Upper Limb rapid assessment tools. In Karwowski, W and Marras,W.S (Eds), *The Occupational Ergonomics Handbook* (2nd Ed) Boca Raton, F l; CRC Press. 42-1-42-12

Karhu O, Kansi P, Kuorinka I (1977) *Ovako Working-posture Analysis System* in Applied Ergonomics Vol 8 Issue 4 p199-201

HSE (2003) MAC INDG 383(2) http://www.hse.gov.uk/msd/mac then Manual handling assessment charts Retrieved 3rd Jan 2011

Appendix 14 – Ergonomics solutions – a hierarchy of control measures

Author: David Couzens-Howard

This appendix relates to Standard B13(b) – 'Ergonomics – risk control measures and ergonomics principles'

It has been developed by the NBELGSWP and is derived from general ergonomics and health & safety principles and hierarchies, and Schedule 1 of the HSE guidance on the Manual Handling Operations Regulations. The purpose is to set out for consideration, the various options that may be available.

Appendix 14 – Ergonomics solutions – a hierarchy of control measures

If ergonomics principles are to be applied and safer practice encouraged, options must be considered in a rational way. There will be a combination of risk management, health & safety and ergonomic factors to take into account and, in the case of people handling, many other factors as well. Assessment and planning are key to setting-up and implementing safe systems of work (SSW).

Hazardous manual handling must be avoided wherever this is reasonably practicable. In the case of **inanimate loads and materials**, automation, mechanisation and bulk handling may be practical options. Where these options are not available, other handling aids must be considered to minimise or assist lifting and carrying, as well as pushing and pulling. Handling aids include such items as trolleys and barrows, and lifting platforms. Good handling techniques should be taught and encouraged/enforced.

Attention to activities and operations or practices that involve **fixed and prolonged working postures** is important and should not be overlooked.

Rest periods and job rotation should be considered in tasks that impose stress or fatigue and cannot easily be avoided altogether.

If hazardous manual handling is to be avoided when **handling people** (persons, service users, etc.), two main strategies present themselves: -

1) Persons and service users should be encouraged and facilitated to be as independent as possible.

2) Persons and service users with limited mobility should be assisted where possible by mechanical means.

a) Promoting independence

Promoting independence as part of rehabilitation or maintaining current levels of ADL is generally beneficial for the person and should reduce the load on the handlers over a period of time, although it may initially require more staff input. The skilled use of therapeutic handling techniques will enable normal patterns of movement to be facilitated and move the recovery process forward. Skilled handling is only part of the story; highly developed interpersonal skills will also need to be deployed, together with a culture that encourages independence and an environment that permits it.

b) Small handling aids can both promote independence and assist the handlers.

c) Mechanical aids

These include hoists, standing aids, electric profiling beds, tilt-tables and riser-reclining chairs.

d) Combining options

There are good reasons for combining therapeutic handling with mechanical aids; they are not mutually exclusive.

e) Choosing the most suitable option

Sometimes the objective is therapy and sometimes care, and it is quite legitimate to handle a given person or service user differently in different situations, provided that the person is not harmed. A person recovering from a stroke in a hospital ward, for example, may be assisted out of bed by therapists manually when they are available and in sufficient numbers to render this option safe and effective. At other times when members of staff are in short supply, staff and person tired and the person urgently needs the toilet, the nurses may decide to use a hoist or slipper pan.

There is no contradiction or conflict in approaches if handling approaches and techniques are sound and appropriate. In both cases above the staff concerned assessed the situation and took into account the therapeutic goals and the circumstances, including – staff skills and numbers; person's condition; person's needs and so on.

f) The clinical environment

The environment must be a **"healing environment",** with sufficient space, good layout and be generally conducive in enabling people to move safely. Ambient conditions (lighting, temperature, humidity and sound levels) are important and in some cases colour schemes have been cited as having an influence on mood. Persons/service users with mental health problems, especially dementia, are often highly susceptible to environmental factors.

Adequate storage for equipment is vital.

g) The **ergonomics of the environment** must be optimised in order to promote efficiency and avoid, as much as possible, excessive stooping, reaching and carrying for the staff.

h) Culture and organisation

These factors are important in determining positive outcomes. The culture should be supportive and work organised systematically to achieve the desired aims.

i) Training (information, instruction, training and supervision)

This is essential to enable handlers to select the most appropriate methods and carry them out at least competently, if not proficiently or expertly.

In the hierarchy of methods, this should not be selected as the first option. Training (learning and development) has a very important place, but it needs to be deployed intelligently and in context.

j) Personal protective equipment (PPE)

Should also not be one of the first options to consider. PPE will however be an important component of many safe systems of work.

k) Review

As with other aspects of health & safety and manual handling, all options and outcomes should be reviewed as necessary.

Further details are to be found in: -

- Schedule 1 of the HSE guidance on the manual handling operations regulations.

- Appendix 13 of this document.