INTRODUCTION

Manual lifting or handling of objects was historically the main cause of lost time at work, still causes the greatest number of days off work from injury and results in over a third of all work related injuries. The main injury caused is damage to the back (an average of 112,000 cases annually over 2009-12) but also causing upper limb disorders, musculoskeletal conditions and other injuries. Back injuries tend to be slow to heal, affect both work and leisure activities and are susceptible to recurrence.

Almost all of these injuries are preventable.

The Manual Handling Operations Regulations 1992 (as amended) (MHOR) and other Regulations such as the Management of Health and Safety at Work Regulations 1999 (MHSWR) require:

- Avoiding the need for manual handling of loads where possible
- Assessing the risk where manual handling cannot be avoided
- Minimising the loads/distance carried etc. and devising safe systems of work to minimise the likelihood of injury
- Providing and maintaining appropriate ‘aids’ and equipment to provide mechanical assistance
- Training employees in correct techniques for safe handling of loads
- Indicating the weights of loads and informing employees
- Keeping records of the assessments and safe working systems
- Ensuring staff at special risk (e.g. pregnant females or those with pre-existing conditions) are subject to specific risk assessment

Staff are required to follow the conclusions of risk assessments for safe handling of loads, avoid endangering themselves or others and report problems to line management.

Injuries, work related ill health and near misses from manual handling need recording in the accident reporting system.

Manual handling includes:

- Lifting, pulling, pushing of loads by hand
- The manual component where lifting or moving equipment is used
- Movement of materials on delivery into storage and later movement out of storage
- Moving equipment and supplies within the site
- Carrying equipment and materials into the field
- Packing and unpacking vehicles for the transport of equipment and materials
- Less obvious tasks such as: digging, hammering in posts or soil corers, levering etc.
- Repetitive tasks which may not involve lifting heavy loads but are repeated frequently.
CONTENTS:

Operational procedure
Roles and responsibilities
System flow diagram
What might go wrong? – probable sources of system and individual failure
Management, monitoring and auditing

Appendices:
Appendix II: General guidance on lifting
Appendix III: HSE guidance on maximum safe loads
Appendix IV: Standard precautions for manual handling
Appendix V: Generic Manual Handling Assessment
Appendix VI: Detailed risk assessment for manual handling
Appendix VII: MAC and ART
Appendix VIII: Training
Appendix IX: Sources of further information

NOTE: mechanical handling of loads – e.g. by using cranes, lift trucks etc – is covered by separate regulations, the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) and must be assessed independently. NERC sites which carry out large scale loading and unloading operations must write specific policies and procedures for this highly specialised work.
OPERATIONAL PROCEDURE

Manual handling operations may be considered as falling into two groups: routine tasks that are performed regularly and lifting tasks that are unpredictable and only occur occasionally or infrequently.

Managers should identify, assess and adequately control risk for all routine manual handling tasks or work of a repetitive nature that may involve an elevated risk of manual handling injury i.e. above the HSE threshold guideline figures for that type of lifting given in Appendix III or other risk factors apply such as pregnancy or pre-existing medical conditions.

Occasional lifting is more difficult to assess and reliance must be placed on individual staff to identify any cases of doubt where they consider there is an elevated risk of injury. This is why all staff must be given at least some level of training and awareness in manual handling. In cases where there is some doubt as to safety, the manual handling should not go ahead and the individual should seek advice, if necessary engaging the assistance of a competent manual handling assessor to identify if further precautions are required.

In all cases where it is believed there is an elevated risk of injury from manual handling, a Detailed Risk Assessment is required (see Appendix VI). In all cases, expert advice and assistance may be sought via the Safety Adviser.

For the great majority of work involving manual handling no detailed assessment will be required as the risk of manual handling injury will be either low or trivial. For such work it will be sufficient for all staff undertaking manual work to follow best manual handling practice (i.e. the standard precautions given in Appendix IV) and utilise a generic approach to control the manual handling risks involved in the task, an example of which is given at Appendix V.

The need for routine handling of materials should be assessed at the site level. Management have an obligation under the MHOR to avoid or minimise manual handling of materials wherever possible.

Identify regular tasks. Clear description of the tasks is essential to making accurate assessment of the hazards and risks. The charts at Appendix III are a filter for manual handling tasks which give ‘threshold’ or ‘guideline’ values for lifting activities according to weight, location, sex and different types of lifting activity. Manual handling of loads below these values may be considered a low risk activity for which there should be no need to produce detailed, written assessments unless there other adverse factors involved such as work of a repetitive nature. However, even when standard precautions and a generic assessment approach are being followed, consideration will still need to be given to ‘high risk’ staff such as pregnant women or those with a pre-existing condition or weakness or other particular features which make the task higher risk than might otherwise be the case. Normally, following a ‘generic’ manual handling assessment will be all that is required but in cases of staff at higher risk, a detailed risk assessment for that high risk individual may be required.
ROLES AND RESPONSIBILITIES

Centre Director: responsible for –
- Ensuring suitable systems and resources, including qualified and appointed competent persons, are in place to deal with manual handling hazards
- Producing annual reports on safety to NERC e.g. via Directors Annual Statement on Internal Control (DASICs).

Senior Managers: responsible for –
- Ensuring manual handling tasks and associated equipment within their area of responsibility have been subject to suitable and sufficient risk assessment
- Delegating specific responsibilities to line managers and appointing competent persons to deal with manual handling issues
- Monitoring the effectiveness of the system
- Cooperating with auditing
- Tracking reported cases and ensuring action is being taken to deal with them.

Managers: responsible for –
- Making assessments where necessary, or nominating competent members of their staff to do so on their behalf
- Ensuring relevant members of staff (including themselves if necessary) have attended and received relevant training on manual handling, with additional training if necessary for appointed manual handling assessors
- Implementing Safe Systems of Work (where appropriate) and their authorisation
- Record keeping and monitoring the effectiveness of safety systems.

NB. All levels of line management are involved in health and safety management.

Staff: responsible for –
- Following safe systems of work implemented as the result of a manual handling assessment
- Minimising risk to themselves and others
- Cooperating in the production of risk assessments and following their requirements
- Reporting symptoms of a musculoskeletal condition arising from manual handling at work (or if they have a condition which may affect their ability to lift loads) as soon as possible after it first becomes apparent and recording injuries/work related ill health in the accident recording system
- Attending training sessions as necessary, which may be via e-learning.
Safe manual handling of loads – SYSTEM DIAGRAM

Is there a risk of manual handling injury?

YES

Is there a low risk / low possibility of injury

YES

NO

Are loads below the HSE threshold guidelines?

YES

NO

Can the load / movement be fully automated / mechanised?

YES

NO

Does any risk of manual handling injury remain?

YES

NO

Carry out detailed risk assessment

Determine measures to reduce risk

Implement measures

Is the risk of injury reduced?

YES

Use standard precautions

NO

Review if conditions change significantly
WHAT MIGHT GO WRONG? – probable sources of system and individual failure

Management:

The “lip service syndrome”: The system is perfect in theory but everyone is operating it simply to conform with the law and not taking it seriously. There is no underlying positive safety culture because there is no ownership of or commitment to the safety systems.

Remedy – continuing management commitment, leadership by example, involvement of staff in the assessment and operation of safety systems.

Mixed messages: they come from management at all levels. Managers are often unaware of the conflict. If staff are told: “Safety is paramount”, “Deadlines have to be met” and “Costs must be kept down”, which do they respond to in practice? If the senior manager is saying “Safety first” but the immediate supervisor is saying “We haven’t time to do that”, who will staff listen to? “Safety must not be allowed to get in the way of science” expressed at any management level, and not countered, can undo months of effort to instil a safety culture.

Remedy – making managers aware of their inconsistencies, rapid and clear countering of negative messages, leadership by example.

Passing the buck: “Safety is the job of the Safety Adviser – nothing to do with me.” The message to staff is that safety is of peripheral interest and to be delegated if at all possible.

Remedy – remind managers that they carry both legal responsibility and liability. By ducking responsibility they increase liability - for both the individual manager and the organisation. Compensation payments come out of the overall budget of the Centre/Institute/Site. HSE will prosecute the most senior manager against whom they can prove negligence.

Pressure from supervisors: Most likely to affect more junior staff and, particularly, students and casual workers.

Remedy – senior management support for susceptible staff. Make it clear to supervisors that such pressure is unacceptable. A culture of acting on information given by “whistle-blowers”.

MAKE SURE THE MESSAGE IS CONVINCING, CONSISTENT AND ENFORCED

Staff:

Over-commitment to the job: Common in self-motivated scientists.

Remedy – The message is “short-term savings in time can lead to long-term adverse consequences for the individual and the organisation”. Training in manual handling for all staff, with more extensive training for those likely to regularly shift loads above the guideline values.

The macho image: Demonstration of physical prowess – mostly male – or ‘need to show I can keep up with the men’ – female.

Remedy – The message is “just because you can lift it doesn’t mean you should” and “is image more important than injury?”

Just this once ….: The temptation to lift and carry it rather than go to get the trolley.

Remedy – Posters and promotional material. Guideline weights displayed at key positions on site (storage areas, freezers, where vehicles are parked etc.). Sensible storage or positioning of lifting and moving equipment; do we need more trolleys or sack trucks? Instant reinforcement of the safety message from managers who see it happening. The message is “If in doubt - Don’t lift it!”

THINK BEFORE LIFTING
MANAGEMENT, MONITORING AND AUDITING

Management

The management of safe manual handling of loads requires:

- Clear lines of responsibility
- The setting of priorities and goals
- Commitment to provide facilities and equipment required for safety
- Provision of manual handling training for all staff, with more extensive training for those likely to regularly shift loads above the guideline values
- Documentary evidence that tasks involving manual handling have been identified and assessed for risk of personal injury
- Written Safe Systems of Work for all tasks involving significant risk
- Signed agreements between management and staff accepting the Safe Systems of Work
- Records of the agreements and agreed dates of revision
- Agreed monitoring and auditing systems
- Provision for staff feedback and whistleblowing

Monitoring

The monitoring of safe manual handling of loads requires:

- Documentation of the management system
- Written records of the process of production of Safe Systems of Work
- Documentation of management follow-up after introduction of such systems
- The reporting and recording of incidents, injuries, illness, fatigue and near misses associated with the handling of loads
- Documentation of actions taken as a result of follow-up and accident reporting
- Assessment of safety attitudes amongst staff
- Documentation of training undertaken
- Maintenance of equipment and moving aids

Auditing

The auditing of safe manual handling of loads requires:

- Checking that the above documentation is in place
- Certifying that training is adequate and accredited
- Assessing management and staff attitudes by interview
APPENDIX I: THE MANUAL HANDLING OPERATIONS REGULATIONS 1992 (as amended) - Summary

- Manual handling is defined as transporting / supporting of a load including lifting, putting down, pushing, pulling, carrying or moving by hand / bodily force.
- Each employer must, so far as reasonably practicable, avoid the need for employees to do manual handling with risk of injury by finding alternative handling methods.
- Employees also have duties under the regulations which include:
  - Following systems of work in place for their safety
  - Using equipment provided for their safety properly
  - Co-operating with their employer on health and safety matters
  - Informing their employer if hazardous handling activities are identified
  - Taking care to make sure their activities do not put others at risk.
- If it is not practicable to avoid manual handling, the employer must assess operations, take steps to reduce the risk of injury and, where possible, provide employees with information on of the weight of the load, centre of gravity, whether the weight is asymmetrically distributed.
- A risk assessment must identify sensible measures to control risks in the workplace. Some workers may have particular requirements (see – High Potential Risk Groups in Risk Assessment), for example; new and young workers; migrant workers; new or expectant mothers; people with disabilities; temporary workers; contractors; home workers and lone workers may be at particular risk or those with pre-existing conditions.

Points to consider when making a detailed risk assessment (see Appendix VI).

- Assessments must be reviewed and revised when there are significant changes in the operations or when they are no longer valid.
- If an object does need to be moved consider using mechanical lifting / moving equipment such as
  - A conveyor or roller table
  - A trolley or pallet truck
  - A load assister or similar support device
  - An electric or hand powered hoist
  - A lift truck
APPENDIX II: GENERAL GUIDANCE ON LIFTING

General guidance on lifting, lowering, pulling and pushing loads

Take great care when lifting, carrying or moving heavy objects. Whenever possible, avoid manual handling of loads. Use trolleys, sack trucks etc. whenever you can; this is essential if loads are to be carried any distance.

NEVER attempt to lift a load that you don’t think you can manage – get help.

ALWAYS be in charge of the load NEVER allow the load to take charge of you.

Always think about the job. Planning can often avoid the necessity for manual handling and may prevent serious injury. Remember the stage hands motto: 'Never lift what you can drag, never drag what you can roll, never roll what you can leave'.

You must produce a detailed risk assessment and for regular handling jobs where the threshold guideline weights given in Appendix III are liable to be exceeded.

Common sense rules:

- Always wear suitable loose fitting clothing and safety footwear. Make use of personal protective equipment where appropriate e.g. gloves, safety hats etc.
- Always make use of appropriate handling aids e.g. barrows, trolleys, sack barrows, pallet trolley etc to minimise carrying distances.
- Where possible avoid carrying loads up stairs.
- If you have to move loads around the corridors then get somebody else to open fire doors.
- Avoid storing heavy loads on the floor or at height (above chest level) – the safest height from which to lift and put down loads is at waist level.
- Avoid using kick steps and folding stepladders for manual handling operations – both are inherently unstable. Use suitable fixed steps, staging, platforms and walkways to retrieve loads above head height.
- Be very careful where the working environment makes what would otherwise be a safe load to handle a high risk operation. Examples are when removing loads from the boot of a car and it is impossible to bend knees or get close to the load or where space is so restricted that the standard precautions for safe handling cannot be adopted.
- NEVER intentionally create large loads when a number of small loads is a safer alternative. Making sure everything is kept together may be a convenient method of housekeeping but is unacceptable if it creates an unsafe manual handling operation.
- When packing boxes, crates etc to form a load for transport, always provide an indication of the weight and centre of gravity on the outside. However, when handling loads use common sense if you suspect that such information may be misleading i.e. the information applied to the original load but the box has been repacked – always test the load.

Always follow the standard precautions (see Appendix IV) when undertaking manual handling operations.

Lifting very heavy items as part of a team:

- Choose one person to lead, issue instructions, time and co-ordinate the lift.
- Try and physically match the participants
- Check that the weight of the load is evenly distributed.
- Ensure that each member of the lifting team is in an optimum position and has enough room to undertake the required manoeuvre.
Threshold Guidelines for assessing manual handling

The Manual Handling Operations Regulations 1992 (as amended) set no specific requirements such as weight limits – it is down to individual capability.

Base your assessment on the factors covered in the detailed risk assessment form (Appendix VI). Check the numerical guidelines produced by HSE to answer the question: **do the operations involve a significant risk of injury?** If, after looking at the following guidance, you are reasonably sure that the answer is no following a generic manual handling assessment such as that given at Appendix V may be all that is required. If unsure, complete a detailed risk assessment and determine what steps you need to take to make the operation safe.

**IMPORTANT:** The following are threshold guidelines as to when detailed assessment will be required but are not hard and fast limits and other factors may trigger the need for one. They do not necessarily mean it is unsafe to lift these loads.

**Lifting and lowering**

Threshold weights below which it is normally safe to lift for the average man and woman are suggested in the diagram below. Written formal risk assessments should not be required for loads below these limits unless other special factors apply e.g. the lift involves, twisting, frequent lifting, pushing pulling, long distances or lifting whilst seated or higher risk individuals.

The aim of detailed risk assessment should be to apply measures which get the weights in these lifting positions below the threshold/guideline.

Note that the figures assume lifting with a straight back; bending over with straight legs, e.g. when removing equipment from the boot of a car, substantially reduces the safe weight for lifting. Take the lowest figure from any of the coloured boxes through which the hands pass in the course of the lift. The figures also assume adequate space for the lifter to achieve a stable body position and that the load is readily grasped with both hands.

**Twisting**

Reduce the weight by about 10% when the lifting or lowering involves twisting the body by 45° degrees. Reduce by 20% with twisting of 90°.
Frequent (repetitive) moving, lifting and lowering
The basic figures are for relatively infrequent operations - up to 30 per hour - with the pace not forced, adequate pauses for rest or recovery and where the load is not supported for any length of time. As a rough guide, reduce by 30% where the operation is repeated once or twice per minute, 50% for five to eight times per minute and 80% for more than 12 times per minute.

Carrying long distances
Similar to lifting; threshold / guideline weights assume carrying close to the body for no further than 10 metres. Reduce the figure if the load is carried further. Where the load can be carried on the shoulders without having first to be lifted (e.g. sacks from a lorry) the guideline figure can be applied to carrying distances in excess of 10m. More detailed assessment may be required if the hands are below knuckle height or above elbow height (due to static loading on arm muscles).

Pushing and pulling
Guidelines assume sliding, rolling or support by wheels. Use a spring balance to assess load. Guideline for starting or stopping the load is about 20kg (about 200 Newtons) for men and 15 kg (about 150 Newtons) for women. For keeping the load in motion is about 10 kg (100 Newtons) for men and 7 kg (about 70 Newtons) for women. Assume that the force is applied with the hands between knuckle and shoulder height; if this is not possible, reduce the guideline figure.

Lifting and moving loads whilst seated
The guideline figures are shown below and apply when the hands remain in the box shown. If twisting or further extension of the hands occurs, more detailed assessment should be carried out.

IF IN DOUBT, DO A MORE DETAILED ASSESSMENT
APPENDIX IV: STANDARD PRECAUTIONS FOR MANUAL HANDLING

Learning and following the correct method for lifting and handling heavy loads helps prevent injury and avoid back pain. Follow these safe lifting and handling steps when you cannot avoid the manual handling activity, cannot use aids to help move the load and have minimised the weight to be lifted:

1. **Think before you lift**
   - Plan the lift. How heavy is the load (if above HSE threshold a more detailed assessment may be required)? What is the weight distribution of the load (keep heaviest side close to body)? Are there other problems in grasping load (e.g. no grip, mobile, sharp edges etc)? Where is the load going to be placed? Use appropriate handling aids where possible. Will help be needed with the load? Remove obstructions, such as discarded wrapping materials. For long lifts, such as from floor to shoulder height, consider resting the load mid-way on a table or bench to change your grip on it.

2. **Keep the load close to the waist**
   - Keep the load close to the waist for as long as possible while lifting. The distance of the load from the spine at waist height is an important factor in the overall load on the spine and back muscles. Keep the heaviest side of the load next to the body. If closely approaching the load isn't possible, try to slide it towards the body before trying to lift it.

3. **Adopt a stable position**
   - Your feet should be apart with one leg slightly forward to maintain balance (alongside the load if it's on the ground). Be prepared to move your feet during the lift in order to maintain a stable posture. Wearing over-tight clothing or unsuitable footwear, such as heels or flip flops, may make this difficult.

4. **Ensure a good hold on the load**
   - Where possible, hug the load close to the body. This may be a better option than gripping it tightly with the hands only.

5. **Don't bend your back excessively when lifting**
   - A slight bending of the back, hips and knees at the start of the lift is preferable to either fully flexing the back (stooping) or fully flexing the hips and knees – in other words, fully squatting.

6. **Don't flex the back any further while lifting**
   - This can happen if the legs begin to straighten before starting to raise the load.

7. **Don't twist when you lift**
   - Avoid twisting the back or leaning sideways especially while the back is bent. Keep your shoulders level and facing the same direction as the hips. Turning by moving your feet is better than twisting and lifting at the same time.

8. **Keep your head up**
   - Keep your head up when handling the load. Look ahead, not down at the load once it has been held securely.

9. **Move smoothly**
   - Don't jerk or snatch the load as this can make it harder to keep control and can increase the risk of injury.

10. **Know your limits**
    - Don't lift or handle more than you can easily manage. There's a difference between what people can lift and what they can safely lift. If you're in doubt, seek advice or get help.

11. **Lower down, then adjust**
    - Put the load down and then adjust. If you need to position the load precisely, put it down first, then slide it into the desired position.
APPENDIX V: GENERIC MANUAL HANDLING ASSESSMENT

This generic manual handling assessment can be followed where the task falls below the weights given in the HSE threshold guidelines, there are no other adverse factors (such as pregnancy or a pre-existing condition) and it is assessed that lifting following the standard manual handling precautions (see Appendix IV) will be suitable and sufficient to prevent the risk of musculo-skeletal injury during the task.

The task must fall within the guidelines listed below, if it does not you must undertake a detailed manual handling risk assessment

☐ Whenever possible, avoid manual handling of loads.

☐ All staff must have an awareness of manual handling risks and received suitable basic training.

☐ Mechanical aids (e.g. trolleys, sack trucks etc.) must be used wherever appropriate. Always make use of appropriate handling aids e.g. trolleys, sack trucks, lifting trolley etc to minimise carrying distances. Ensure you are trained in using any mechanical aids safely.

- Never attempt to lift a load that you don't think you can manage – get help. Remember that team lifting takes planning and must be risk assessed (as a general rule 2 people can only lift 66% of their individual capability, 3 people 50%).

☐ Always be in charge of the load never allow the load to take charge of you.

☐ Always think about the job. Planning may avoid the need for manual handling altogether and could prevent serious injury.

☐ Always wear suitable loose fitting clothing and safety footwear when undertaking planned lifting. Make use of personal protective equipment where appropriate e.g. gloves.

☐ Where possible use a lift, avoid using stairs when carrying a load.

☐ The safest height from which to lift and place loads is waist level. Try to store heavy items at this level.

☐ Breaking the task into a number of smaller loads is usually a safer alternative. Buy smaller packages, split loads, make more journeys or use a trolley.

☐ Always test the load and the weight distribution (even if the weight is marked on the outside as this may be incorrect).

- Just because you can lift it doesn’t mean you should.

Summary – if the answer to any of the following questions is yes, then a detailed risk assessment will be required:

1. Does the task fall outside the threshold guidelines for:
   a. Lifting and Lowering?
   b. Twisting?
   c. Repetitive handling?
   d. Carrying long distances?
   e. Pushing and Pulling?
   f. Handling while seated?
2. Are there any other factors that indicate a problem causing an elevated risk?
3. Is a more comprehensive assessment required?
APPENDIX VI: DETAILED MANUAL HANDLING RISK ASSESSMENT

The following detailed risk assessment method and form is only one suggested version that may be used. It is not mandatory and many other versions are possible. In addition, the HSE has manual handling assessment tools such as MAC and ART (see Appendix VII) that may be used. Even when using the detailed risk assessment form the standard precautions at Appendix IV will still need to be taken into account and followed as far as is practicable.

In completing the assessment form, it should be checked that all necessary matters have been taken into consideration. The various matters for consideration have been grouped into four categories from which a mnemonic can be derived to aid / guide the assessment, this being LITE. The four risk assessment categories or elements consist of Load / Individual / Task / Environment. An alternative version is TILE – the same elements in a different order.

LOAD

This is the load that is being handled. It will not just involve considering the weight of the load but also other factors such as: size; weight distribution; ease of grip; is it immobile / solid / static (animals which move and struggle may be a problem but babies and small children who grip are not); are there sharp edges or protruding sharp objects and is the load hazardous for reasons other than manual handling ones?

INDIVIDUAL

Although threshold guideline figures are suggested these are not hard and fast and other individual factors will need to be taken into account. Most detailed manual handling risk assessments will cover a range of staff who undertake the task and so will apply to the majority of the workforce. The likely population covered by the risk assessment must be taken into account and any limitations as to physical capability or fitness specified. Where persons are at particular or higher risk, e.g. pre-existing conditions, physical limitations or pregnancy, individual manual handling assessments specific to that person and the tasks they may perform should be undertaken.

TASK

This aspect considers the manner in which the load will need to be manually handled and includes the distance and route the load has to be carried, how frequently it has to be done, the movements involved and their frequency, what has to be done with the load, and so on.

ENVIRONMENT

This aspect covers the place and conditions in which the manual handling task will be undertaken. It will include matters like levels of lighting, temperature / humidity, space, condition / nature of floors, height of surfaces lifting from or into, changes of level, obstacles in route and housekeeping and nature of loads.

As with all systems, it is wise to include an ‘other’ consideration to check if there is anything else that not been taken into account. This might include clothing or use of personal protective equipment.

Within each of these elements the form identifies hazards which can be highlighted if they are relevant and then classed into one of three risk categories: High, Medium or Low. The table attached to the form shows the factors which allow the risks posed by any relevant manual handling hazards to be quantified into one of these levels. Precautions (‘remedial actions’) must then be assigned which reduce those risks to an acceptable level. For low risks, few if any precautions will be needed. Manual handling tasks for which the risks cannot be reduced to an acceptable level should not be allowed to proceed.
## MANUAL HANDLING ASSESSMENT FORM

### PART A - PRELIMINARY QUESTIONS

<table>
<thead>
<tr>
<th>Q1</th>
<th>Do the MH operations involve a risk or possibility of injury (e.g. are HSE Threshold / Guideline values exceeded or do other risk factors apply)?</th>
<th>YES go to Q2</th>
<th>NO - follow standard precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2</td>
<td>Can you avoid moving the load?</td>
<td>NO go to Q3</td>
<td>YES – identify actions in Part B</td>
</tr>
<tr>
<td>Q3</td>
<td>Is it reasonably practicable to mechanise or automate the MH operations?</td>
<td>NO – complete Parts B &amp; C</td>
<td>YES – identify actions in Part B</td>
</tr>
</tbody>
</table>

### PART B - SUMMARY OF MH ASSESSMENT

<table>
<thead>
<tr>
<th>Description of MH operation covered by assessment:</th>
<th>Date:</th>
<th>Ref. Number:</th>
<th>Section/Dept:</th>
<th>Location(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifting or Lowering Loads</td>
<td>YES/NO</td>
<td>Personnel involved:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Load Weight:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of Lift or Operation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrying Loads</td>
<td>YES/NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carry Distances (if applicable)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pushing or Pulling Loads</td>
<td>YES/NO</td>
<td>Actions to be taken in order of priority:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Push/Pull Distances:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handling Loads Whilst Seated</td>
<td>YES/NO</td>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repetitive Handling</td>
<td>YES/NO</td>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are other MH tasks carried out by the same personnel?</td>
<td>YES/NO</td>
<td>3.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reason for Assessment (Tick Box):**
- MH Task Avoided
- MH Task Automated or Mechanised
- Individual Risk Assessment
- Change in Manual Handling Procedure
- Periodic Review
- Other: (State).................................

**Details (if individual risk assessment)**

**Name:**

**Period Job Held (years/months):**

**Job Title:**

**Priority for actions:** Nil / Low / Med / High **Date for completion of actions :**

**Assessors name:** **Signature:** **Assessment Date:**

**Line Managers name:** **Signature:** **Date:**
**PART C – MANUAL HANDLING ASSESSMENT**

The form on this page forms part of a record of the manual handling risk assessment. Key areas of the LOAD, INDIVIDUAL, TASK and ENVIRONMENT (LITE) + OTHERS are identified to allow a suitable and sufficient risk assessment to be undertaken.

<table>
<thead>
<tr>
<th>Manual Handling Operation</th>
<th>Level of Risk – if Y, enter √ as appropriate in either high / medium or low – see table for ratings</th>
<th>Enter any comments, remedial actions required or examples of handling operations that may be carried out by the manual handler(s) covered under this risk assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEVELS</strong></td>
<td>L  M  H</td>
<td></td>
</tr>
</tbody>
</table>

**LOAD**

**ARE THE LOADS** (see threshold/guideline figures on weights):

1. Heavy?
2. Bulky or unwieldy?
3. Difficult to grasp?
4. Unstable or contents are liable to shift / move?
5. Sharp, hot or potentially harmful?

**INDIVIDUAL**

**DOES THE JOB:**

6. Stretch physical capabilities to where there is a risk of injury?
7. Pose risks to those with a health condition?
8. Pose risks to pregnant women?
9. Require specialist information / expertise / knowledge or additional training?

**TASK**

**DO THE TASKS INVOLVE** (see guidance on heights, frequency, twisting, pushing pulling):

10. Holding loads away from the body?
11. Twisting?
12. Stooping?
13. Reaching up?
14. Large vertical movement?
15. Moving loads over long distances?
16. Considerable pushing or pulling?
17. Positioning the load precisely?
18. Risk of sudden load movement?
19. Frequent or prolonged physical effort?
20. Repetitive Handling?
21. Workload imposed by process?
22. Insufficient rest or recovery periods?

**ENVIRONMENT**

**ARE THERE:**

23. Space constraints preventing good posture?
24. Uneven, slippery or unstable floors?
25. Variations in levels of floor or work surfaces?
26. Temperature, humidity, air movement extremes?
27. Poor lighting conditions?

**OTHER**

**IS SAFE MANUAL HANDLING HINDERED BY:**

28. Clothing, articles being worn or personal protective equipment?

**NB:** If Y is answered in Manual Handling Operation column, the risk must be rated
Quantifying the level of risk. This table is to help in completing the risk assessment form.

### The loads – are they:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>LOW</th>
<th>MEDIUM</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy? (indicate weight in kg)</td>
<td>Up to figure in guidelines</td>
<td>Sometimes in excess of guidelines</td>
<td>Always significantly in excess of guidelines (i.e. more than double)</td>
</tr>
<tr>
<td>Bulky / unwieldy?</td>
<td>Not easily handled</td>
<td>Awkward to handle</td>
<td>Difficult to handle</td>
</tr>
<tr>
<td>Difficult to grasp?</td>
<td>Grip is not easily maintained</td>
<td>Grip is difficult to maintain</td>
<td>Great difficulty in maintaining grip</td>
</tr>
<tr>
<td>Unstable / unpredictable?</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Always</td>
</tr>
<tr>
<td>Intrinsically harmful (e.g. sharp / hot?)</td>
<td>Exposure to harm generally avoidable</td>
<td>Exposure not easily avoidable</td>
<td>Exposure unavoidable</td>
</tr>
</tbody>
</table>

### Individual capability - does the job:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>LOW</th>
<th>MEDIUM</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Require unusual capabilities?</td>
<td>Most people can carry out the operation</td>
<td>Only certain people can carry out the operation</td>
<td>A minority of people can carry out the operation</td>
</tr>
<tr>
<td>Present higher risk to those with a health problem?</td>
<td>Possibly</td>
<td>Likely</td>
<td>Certainly</td>
</tr>
<tr>
<td>As above for those who are pregnant?</td>
<td>Possibly</td>
<td>Likely</td>
<td>Certainly</td>
</tr>
<tr>
<td>Call for special information and training?</td>
<td>Would be beneficial, but not essential</td>
<td>Considered necessary</td>
<td>Essential to carry out operation</td>
</tr>
</tbody>
</table>

### The tasks – do they involve:

<table>
<thead>
<tr>
<th>Task</th>
<th>LOW</th>
<th>MEDIUM</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding loads away from trunk?</td>
<td>Load moved in box zone closest to body</td>
<td>Load moved in box zone furthest from body</td>
<td>Load moved outside box zones</td>
</tr>
<tr>
<td>Twisting?</td>
<td>Up to 45°</td>
<td>45°-90°</td>
<td>Over 90°</td>
</tr>
<tr>
<td>Stooping?</td>
<td>Slightly</td>
<td>To knee level</td>
<td>To floor level</td>
</tr>
<tr>
<td>Reaching upwards?</td>
<td>Shoulder height</td>
<td>Head height</td>
<td>Above head height</td>
</tr>
<tr>
<td>Large vertical movement?</td>
<td>Less than 1m</td>
<td>1-2m</td>
<td>More than 2m</td>
</tr>
<tr>
<td>Long carrying distance?</td>
<td>Up to 10m</td>
<td>10-20m</td>
<td>More than 20m</td>
</tr>
<tr>
<td>Strenuous pushing or pulling?</td>
<td>&lt;25kg starting force – 10kg maintenance force</td>
<td>25-50kg starting force – 10-20kg maintenance force</td>
<td>&gt;50kg starting force – 20kg maintenance force</td>
</tr>
<tr>
<td>Positioning the load precisely?</td>
<td>The positioning of the load is not critical</td>
<td>Some care is required in positioning the load</td>
<td>The exact position of the load is critical</td>
</tr>
<tr>
<td>Unpredictable movement of loads?</td>
<td>Rarely shifts when moved</td>
<td>Will often shift</td>
<td>Always shifts</td>
</tr>
<tr>
<td>Repetitive handling?</td>
<td>1-4 operations per day</td>
<td>5-10 operations per minute</td>
<td>More than 10 operations per minute</td>
</tr>
<tr>
<td>Insufficient rest or recovery?</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Always</td>
</tr>
<tr>
<td>Workrate set by process?</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Always</td>
</tr>
</tbody>
</table>

### The environment - are there:

<table>
<thead>
<tr>
<th>Condition</th>
<th>LOW</th>
<th>MEDIUM</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constraints on posture?</td>
<td>Minimal interference with normal movement</td>
<td>Moderate interference</td>
<td>Significant interference</td>
</tr>
<tr>
<td>Poor condition floors?</td>
<td>Some unevenness or obstruction</td>
<td>Moderate unevenness, low grip or noteworthy obstructions</td>
<td>Dangerously uneven floor, very low grip &amp; highly obstructed</td>
</tr>
<tr>
<td>Variations in levels?</td>
<td>Load moved &lt; 1m vertically</td>
<td>Load moved 1-2m vertically</td>
<td>Load moved more than 2m vertically</td>
</tr>
<tr>
<td>Hot/cold/humid extremes?</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Always</td>
</tr>
<tr>
<td>Strong air movements?</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Always</td>
</tr>
<tr>
<td>Poor lighting conditions?</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Always</td>
</tr>
</tbody>
</table>

### Other factors:

<table>
<thead>
<tr>
<th>Factor</th>
<th>LOW</th>
<th>MEDIUM</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the movement or posture hindered by clothing or PPE?</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Certainly</td>
</tr>
</tbody>
</table>
APPENDIX VII: MAC and ART

These are the names of two HSE tools that may assist in detailed manual handling assessment.

1. Manual handling assessment chart (MAC)

MAC is designed to assess the most common risk factors in lifting, carrying and team handling operations. It can help identify high risk manual handling operations.

It is not currently suitable for tasks which involve pushing or pulling, although the HSE plans to make improvements to include this in due course, or patient handling.

It uses a ‘traffic light’ approach but a numerical indication is also provided.

For lifting, the assessor works through a sequence of risk factors beginning with load and frequency then considering the following:

a) Position of hands horizontally in relation to the lower back
b) The vertical lift distance
c) The degree of twisting
d) Postural constraints
e) The quality of the grip
f) Floor conditions and
g) Other environmental factors

Similar considerations apply in the charts for carrying and team handling.

The charts do not include a consideration of age, sex, physical fitness, strength or psycho-social factors but these do need to be considered when completing the score sheet.

2. Assessment of Repetitive Tasks Tool (ART)

ART is designed to help assess tasks that require repetitive movement of arms and hands. It assists in assessing some of the common risk factors in repetitive work that contribute to the development of Upper Limb Disorders (ULDs). It is not intended for Display Screen Equipment (DSE) assessments.

ART is an aid to:

- Identifying repetitive tasks that have significant risks and where to focus risk reduction measures
- Prioritising repetitive tasks for improvement
- Considering possible risk reduction measures
- Meeting legal requirements to ensure the health and safety of staff performing repetitive tasks

It uses a numerical score and a traffic light approach to indicate the level of risk for twelve factors, which are grouped into four stages:

A: Frequency and repetition of movements
B: Force
C: Awkward postures of the neck, back, arm, wrist and hand
D: Additional factors, including breaks and duration

The factors are presented on a flow chart, which by a step-by-step process evaluates and grades the degree of risk. It is supported by an assessment guide, providing instructions to help score the repetitive task being assessed. There is also a worksheet to record the assessment.

Training (which can be done online from the HSE website) is recommended before using the ART tool reliably and appropriately.
All staff must receive a basic level of awareness training for manual handling. The levels of training required by the Health and Safety at Work etc Act 1974, Management of Health & Safety at Work Regulations 1999 and the guidance to the Manual Handling Operations Regulations 1992 (as amended), should be in proportion to the risks involved in a particular task. Training could last less than an hour as part of general induction for all staff (or be done via an e-learning course) or several hours for staff who regularly undertake higher risk manual handling tasks e.g. above the HSE threshold guidelines or spend a significant amount of their working hours undertaking manual handling. A higher level of training may be appropriate (lasting two or three days) where an individual has been appointed to undertake manual handling risk assessments across a wide area and needs to be deemed a ‘competent’ manual handling assessor. The person who gives lifting and handling training must have a relevant, recognised and current qualification, which can be obtained in combination with the assessor training and may take an additional two days.
APPENDIX IX: SOURCES OF FURTHER INFORMATION


HSE Leaflet INDG 143 (rev3), published 11/12: ‘Manual handling at work A brief guide’
http://www.hse.gov.uk/pubns/indg143.pdf

HSE Leaflet INDG 398 (rev1), published 10/13: ‘Making the best use of lifting and handling aids’

HSE Manual handling assessment charts (the MAC tool) INDG383 (rev2), published 06/14