

## Health, safety and well-being

### Activity 3: Mind your back! Musculoskeletal disorders

#### Introduction

Musculoskeletal disorders (MSDs) are the most common cause of occupational ill health in Great Britain, currently affecting one million people a year and costing society £5.7 billion. MSDs affect the muscles, joints, tendons and other parts of the musculoskeletal system. Over one third of all absences from work lasting three days or more are caused by manual handling problems. This includes the moving or lifting of loads by hand.

Some injuries are the result of one lift performed badly, usually involving a heavy object. However, performing a number of low-weight lifts incorrectly over a period of time can have a cumulative and chronic effect. This means that if someone always lifts incorrectly, then each time they lift they increase the risk of sustaining or aggravating an injury, especially an MSD.

Learners need to understand the risks associated with manual handling and to take appropriate measures to assess and ultimately reduce these risks to themselves and others, so that the likelihood of suffering from MSDs such as back pain are reduced. This requires them to consider the implications of using the right and wrong techniques for manual handling and to develop a positive attitude and behaviours that will help them to work safely and healthily.

This activity focuses on one aspect of MSD, manual handling. It uses an experiential learning approach. Learners observe how to lift items safely and then coach each other to improve their performance. The activity illustrates a powerful approach to Assessment for learning, or formative assessment. This involves learners in planning and managing their own learning by developing success criteria, monitoring their own and each other's progress using self-assessment and peer review to provide constructive feedback.

The activity also illustrates an effective way to involve learners in co-creating learning and explains the powerful benefits of doing this.

#### Learning objectives/outcomes

Learners should be able to:

- explain some causes of musculoskeletal disorders
- understand and demonstrate the principles of effective lifting
- practise effective lifting safely
- define and use success criteria for self-assessment and peer review.

## Resources required

- Copies of **Sheet 3.1: Stages in manual handling.**
- A copy of **Health, safety and well-being: the learning points** sheet (included in the Health, safety and well-being theme section of these resources).
- A copy of the Health and Safety Executive (HSE) booklet, **Getting to grips with manual handling**, available to download from [www.hse.gov.uk/pubns/indg143.pdf](http://www.hse.gov.uk/pubns/indg143.pdf).
- Health and Safety Executive website on MSD: [www.hse.gov.uk/MSD/index.htm](http://www.hse.gov.uk/MSD/index.htm)
- Empty boxes, such as paper boxes, or other lightweight objects, including some that are large enough to require more than one person to lift.

Please note: the sheets for this activity are included as a separate PDF document.

## Starting points

Learners do not need any prior knowledge to participate in this activity, although a basic understanding of the importance of MSDs is helpful. Many learners will be able to recount personal experience in this topic and you should use this as a starting point to engage interest and understanding.

You will need to support and monitor the activity carefully to ensure that learners use safe procedures as they practise lifting. Make sure that the items are well within their lifting capabilities.

Familiarise yourself with, and practise demonstrating, the key stages in manual handling. Use the HSE booklet **Getting to grips with manual handling**. A useful preparation for the activity is to work through the whole activity with colleagues, modelling the approach. This will build your confidence and give you insight into how the approach can help your learners.

## Planning learning in multiple environments

This activity is valuable during induction and also later when learners may be preparing to go into the workshop or workplace. The principle of devising success criteria and using them to provide a working tool for Assessment for learning is particularly valuable and can be used in any learning situation.

This learning approach is particularly valuable as learners prepare to work more independently. Consider with your learners how to follow up the experience of developing success criteria for tasks, then using them to guide learning and to monitor performance.

## Suggested approaches

### Stage 1

Learners will be working in pairs for this activity. This is an opportunity for you to plan the pairs if you wish to work on personal and social skills.

Explain the purpose of the activity and the learning objectives. To set the scene you could:

- draw on learners' personal experiences of musculoskeletal problems, either their own or others
- ask learners to consider what impact a bad back would make on their enjoyment of life: for example, social life, playing sport, financial consequences of being unable to work
- ask pairs to undertake research to:
  - define the term 'musculoskeletal' (and write it in their technical glossary if used)
  - find some key facts about the scale of MSDs in the United Kingdom.

Provide some texts or Internet access for this task.

Take feedback. Point out the difference between short term (acute) and longer-term (chronic) injuries and the implication that everyone should take responsibility for their own well-being to prevent such problems.

### Stage 2: Modelling safe practice – silent demonstration

Explain to learners that they will:

- observe while you demonstrate how to lift loads effectively (using an empty paper box or similar)
- watch very closely in order to describe exactly what you are doing – and why
- create success criteria for lifting
- use the success criteria to practise and become experts in performing the task themselves
- self-assess their performance and give each other feedback, using the success criteria.

Getting learners to pay careful attention during a demonstration can be difficult. Providing a commentary to draw attention to key points can have the opposite effect, as learners no longer need to observe carefully. You can heighten attention by making the task more difficult. If you reduce the amount of information you provide, learners have to think harder and look for explanations. An effective way is to use a silent demonstration, a technique used extensively in medical training, particularly in surgery.

Explain how this will work.

"I am going to lift this box. I want you to watch carefully. When I've finished, I shall ask you for a full description of what I did. While you are watching and making mental notes,

please also think about why I am lifting this way. I shan't say anything, or point out anything, so you'll have to watch very carefully."

Before you take feedback, ask pairs to make written checklists to describe safe lifting, including:

- the stages they have observed
- what you did at each stage
- why they think you did it that way.

### **Stage 3: Creating success criteria**

It can be difficult to do something well if you do not know what 'doing well' should look like. If learners are clear about the success criteria that will be used to judge their work they can:

- plan their own work in advance and work towards the criteria
- try out a hands on, active learning task
- note what happened
- relate new understanding to old understanding
- relate practice to theory (or vice versa)
- reflect on their work and assess it as they go along
- practise to test their understanding
- identify and correct their own errors
- use constructive feedback from others to improve
- reflect on what they have learned and how they learned it, using self-assessment.

In experiential learning terms, creating and using success criteria gives learners a framework for thinking about what they are intending to achieve.

Ask learners, in pairs, to share their written checklist with another pair and describe their understanding of safe practice in lifting. (Alternatively, ask them to create posters describing and explaining their success criteria. These can be displayed and evaluated.)

Take feedback from the groups and draw out the criteria required to create one single effective practice checklist for manual handling.

Use discussion and open and probing questions to draw out learners' understanding, making sure that the discussion draws out the need to adopt an attitude of thought and concentration when moving objects and to use defensive behaviours to prevent damage to themselves or others.

Create an agreed whole group checklist of success criteria for manual handling on the board with the stages and characteristics defined clearly. You may need to repeat the demonstration if they have all missed something important. (Check the completed checklist against the criteria defined in the HSE booklet **Getting to grips with manual handling** to make sure nothing important has been missed.)

It is important that the checklist remains in 'learner language' as this grants ownership. If possible, make copies of the checklist for learners to work from in Stage 3 or ask them to write up copies themselves.

#### **Stage 4: Learning and practising the skills**

Working in pairs, learners take turns to lift and move empty boxes or lightweight items. One person acts as coach, using the checklist for guidance. It should take some time to learn how to perform the process correctly. Some learners find it helpful to 'talk themselves' through the stages. This serves as a 'rehearsal' and auditory reinforcement.

#### **Stage 5: Self- and peer review and constructive feedback**

When learners are confident, ask them to use their checklist to carry out a peer review on each other and then a self-assessment of their performance, again using the checklist. They should explain why they think they have met the assessment criteria.

Assessment is about making judgements, and the main reason to involve learners in self- and peer review is that it helps them to form judgements about themselves and their work. This is an important 'expert learner' skill.

Learners use their checklist to give each other constructive feedback on their performance explaining:

- what they have done well – and why
- what they have done less well – and why
- what action they need to take to improve.

Finally, you need to observe and assess their capability in lifting lightweight items and provide constructive feedback on what they have done well and what they need to do to improve.

#### **Stage 6: Transfer and mastery of skills**

Only when you are satisfied that learners are competent should they take turns to move real items under supervision. Again, learners should act as coaches to each other to provide reminders, advice and guidance.

#### **Stage 7: Consolidating and reflecting on learning**

Use a whole group plenary session to summarise the key learning points.

#### **Debrief on the topic**

Learners should now be confident enough to describe the stages involved in safe lifting and explain what is important about each stage. You might invite groups or individuals to come to the board in turn to construct a diagram or flow chart of the overall process.

Make sure that discussion draws out the key safety points at each stage. At this point you could distribute copies of the HSE booklet **Getting to grips with manual handling**, which provides a firm foundation for more in-depth work on the topic.

### **Debrief on the learning approach**

In this activity, learners experienced:

- silent demonstration
- creating success criteria
- using success criteria to guide learning
- using success criteria to monitor their progress and to give and receive constructive feedback.

Ask learners to consider:

- how they felt about these approaches
- what went well – and why
- what went less well –and why
- where they could use the approaches again.

Responses could be written on coloured sticky notes and posted on the wall. Summarise the comments and decide with the learners how they can follow up the experience of developing success criteria, then using them to guide learning and to monitor performance. These are important transferable learning skills.

Remind learners that many success criteria concern personal and social skills, such as working in teams, using initiative or providing good customer care. How might it be helpful to create effective practice checklists for use during learning?

If you adopt a consistent approach to developing success criteria with learners, encouraging them to use the criteria to manage and evaluate their own and others' performance, you should find over time that success rates improve. The approach develops learners' capacity for self-assessment so that they can become reflective and self-managing. It helps to 'shape' learning behaviour. It also promotes a commitment to learning goals and a shared understanding of the criteria by which they are assessed.

### **Alternative approaches**

You could use a less challenging approach to the use of success criteria. By handing out a ready-made checklist of criteria for safe manual handling and asking learners to assess your performance against it, they could become familiar with someone else's definition of success criteria. They could then use the same checklist to work together to develop their own lifting skills and to give each other constructive feedback. However, learners would gain less from understanding and engaging with the process from start to finish.

You can adapt the learning approach to other topics by providing examples of good and poor practice in the learners' area of work. For example, this might include reports, spread sheets or component specifications. Ask learners, working in pairs or groups, to identify what features make some 'good' rather than 'average' or 'poor'. Ask learners to compile the good features into a checklist of success criteria. This can be used to guide their work and, later, for self-assessment and or peer review.

### **Differentiation to meet individual needs**

For less confident learners try 'scaffolding' the activity by providing extra prompts and more support. Distribute **Sheet 3.1: Stages in manual handling** as a prompt. As learners watch your demonstration, ask them to describe verbally what they observe and why you are doing it that way. If they are working in buddy pairs, more confident learners could write down the explanations.

Use **Sheet 3.1** or the HSE booklet, **Getting to grips with manual handling**, to create a set of cards to describe the stages a) as images and b) in words. Learners can sequence the 'stage' cards and then match these with the correct text cards. This can support and reinforce reading skills.

### **Challenges – what learners might do next**

- Explore how manual handling can be avoided and how to undertake a risk assessment.
- Encourage learners to identify when to ask for help with larger items and how to organise team lifting. The same approach as above can be used.
- Explore the maximum weights that males and females can lift safely and weigh some examples. This could become an embedded numeracy task.
- Explore the HSE website to investigate manual-handling hazards in particular industries.
- Consider how you would adapt the activity to relate to real work contexts: for example, moving people in care settings or moving loads that require more than one person.
- Explore other working patterns in particular occupations that can lead to musculoskeletal problems: for example, repetitive movements or sitting at the computer.

The HSE booklet: **Getting to grips with manual handling** is a useful source of further information.

### **Embedding literacy, language and numeracy (LLN)**

Every learning activity includes many different opportunities to develop LLN skills. Always try to find a naturally-occurring opportunity where learners can immediately appreciate the relevance and importance of the skills they are learning to use.

You can work with your LLN specialist to help you identify specific levels and curriculum references relevant to this activity and to create engaging learning activities to develop the skills.

The priority LLN skill that learners will need to complete this activity is writing. In particular, learners will need to be able to create and write success criteria that are accurate and fit for purpose. This activity can help learners to develop the skills below.

**At Level 1 and Level 2** judge how much to write and the level of detail.

- Understand that the length of text and the level of detail depend on the nature of the content and on purpose and audience.
- Understand that planning and drafting involve making decisions on length and detail. (Adult literacy core curriculum reference Wt/L1.2 and Wt/L2.2)

**Useful activities might include:**

- Working in pairs or small groups, learners analyse externally-set assessment criteria such as accreditation standards from relevant awarding bodies. Learners should consider a) who the audience is and b) whether the level of content and detail is appropriate for the audience.
- Learners might then create a lists of 'features' that can help learners to understand the criteria and to use them for learning, for example detail of text, content, vocabulary used, accuracy, layout and so on.
- Next, groups or pairs of learners share out and 'translate' the externally-set assessment criteria into 'learner language' using their list of useful features.
- Learners can ask others for critical comments on their 'translation'. How does this help learners to understand the success criteria? How can it improve learning? The statements and the 'translations' can also be made into a card-matching game. Learner statements might need to go through several stages of draft and edit before they are good enough.
- Finally, learners can use their 'good features' list to create their own assessment criteria for the activity above. This exercise will give them insight into analysing text, judging the needs of the audience, the level of detail to include and the drafting and editing process.

**Session plan**

**Aim:** To raise learners awareness of musculoskeletal disorders and the principles of safe lifting.

**Learning objectives/outcomes**

Learners should be able to:

- explain some causes of musculoskeletal disorders
- understand and demonstrate the principles of effective lifting
- practise effective lifting safely
- define and use success criteria for self-assessment and peer review.

Time	Teacher plan	Learner activity	Resources
0-15 min	<p><b>Stage 1</b> Plan pairs if you intend to work on personal and social skills.</p> <p>Explain the purpose of the activity and the learning objectives.</p> <p>Use a warm-up activity to set the scene and assess learners' starting points.</p>	<p>Work in pairs for this activity. Carry out scene-setting activity. Report back.</p>	
15-35 min	<p><b>Stage 2</b> Modelling safe practice - silent demonstration.</p> <p>Explain what you will do and what learners will do – and why. Conduct demonstration.</p>	<p>Pairs:</p> <ul style="list-style-type: none"> <li>• Observe the silent demonstration carefully.</li> <li>• Create written checklists to describe features of safe lifting.</li> </ul>	Empty paper box.
35-45 min	<p><b>Stage 3</b> Take feedback and use discussion and questioning to create a whole group checklist of success criteria for safe manual handling.</p>	<p>Pairs evaluate their success criteria. Feedback to provide input to a whole group checklist.</p>	Whiteboard, pens. Copies of learner-generated checklist of effective practice in safe manual handling.

45-75 min	<b>Stage 4</b> Learning and practising the skills.	Working in pairs, take turns to lift and move empty boxes or lightweight items. One person acts as coach, using the checklist for guidance.	Empty paper boxes or other light items. Checklist.
75-100 min	<b>Stage 5: Self- and peer review and constructive feedback</b> Observe individual learners' performance and give constructive feedback against the success criteria.	Pairs use checklist to give each other constructive feedback on their performance explaining: <ul style="list-style-type: none"> <li>• what they have done well – and why</li> <li>• what they have done less well – and why</li> <li>• what action they need to take to improve.</li> </ul>	Checklist.
100-120 min	<b>Stage 6</b> Transfer and mastery of skills.	When competent, learners take turns to move real items under supervision. Learners act as coaches to each other to provide reminders, advice and guidance.	Checklist.
120-135 min	<b>Stage 7</b> Consolidating and reflecting on learning. Reflect on: <ul style="list-style-type: none"> <li>• key learning points for topic</li> <li>• key learning points for the learning process.</li> </ul>	Reflect on: <ul style="list-style-type: none"> <li>• what they have learned</li> <li>• how they felt about these approaches</li> <li>• what went well – and why</li> <li>• what went less well – and why</li> <li>• where could they use the approaches again?</li> </ul>	Coloured sticky notes.

### Assessment of learning objectives/outcomes

- Peer and self assessment using learner-generated success criteria.
- Observation of individuals performing safe lifting, following the agreed success criteria.

### Differentiation to meet individual needs

- Scaffold the activity for less confident learners by providing extra prompts and more support. Distribute **Sheet 3.1: Stages in manual handling** as a prompt. As learners watch your demonstration, ask them to describe verbally what they observe and why you are doing it that way. If they are working in buddy pairs, more confident learners could write down the explanations.
- Use **Sheet 3.1** or the HSE booklet, **Getting to grips with manual handling**, to create a set of cards to describe the stages a) as images and b) in words. Learners can firstly sequence the 'stage' cards and then match these with the correct text cards. This can support and reinforce reading skills.

#### Teacher evaluation

Consider which parts of the session were effective and why.

#### Learner feedback

Consider whether the activities were suitable for all learners and whether the session helped to develop the expert learners.

### Personal, learning and thinking skills developed

- Self managers:
  - Taking control over own learning.
- Independent enquirers:
  - Identifying issues and solutions.
- Creative thinkers:
  - Asking questions to extend thinking.
- Reflective learners:
  - Reviewing progress, acting on outcomes of feedback.

### Literacy, language and numeracy skills developed

#### Literacy

At Level 1 and 2, learners will need to judge how much to write and the level of detail as they create their success criteria.