

Delegate Handout Workbook

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Facts and Figures



Work-related musculoskeletal disorders by affected area, 2022-2023 (Percentages shown below have been rounded so do not sum to 100%)



Source: HSE health and safety at work summary statistics for Great Britain (published November 2023)

- In 2022/23 an estimated 6.6 million working days were lost due to work-related musculoskeletal disorders. This equates to an average of 15.3 days lost per case.
- In any given month, about one third of the UK adult population will suffer from back pain. About 80% of the UK population will suffer significant back pain at some time in their lives.
- After coughs and colds, back pain is the most common reason for GP visits.

Understanding Anatomy



Vertebrae

Small round pieces of bone in the spine, which stack together to form the spinal column. The spinal cord runs down a hollow tube created by holes at the back of each vertebra.



Intervertebral Discs

Strong, flexible layers of tissue sandwiched between successive vertebrae. These are made up of a tough, protective outer layer and a fluid inner region. This enables the spine to flex and move.

Key risks – Stooping/twisting then loading. Sitting for long periods.



Muscle, tendons and tissue

Tissues attached to bone directly or via tendons which stretch and contract to alow the body move.

The main muscles in your lower back:

- contract when you lean forward to hold you back from falling over

- pull you back into an upright position.

Key risks – Over stretch and over load.



Psychological Factors

Contributing factor	Key Issues
Psychological factors	Stress and fatigue cause distractions which may increase risk
	 Psychological strain can develop into physical pain
Disease	• Disease can directly affect the back, for example through Rheumatoid
	arthritis or Osteoporosis
Age and cumulative strain	 Exposure to risk factors accelerates natural degeneration of body
	tissue.
	 Cumulative strain can lead to serious damage over time.
Gender	 Load limits should be reduced by 30% for women.
	• Pregnant women are under increased risk and the more pregnancies a
	woman has, the more likely she is to develop a slipped disc.
Genetic make-up	• Some people are genetically more predisposed to develop back pain.
Lifestyle	• Smoking, diet, posture, fitness, pregnancy can all increase risk.
Leisure activities	• Leisure activities and sports can carry a high risk and effects of fatigue,
	injury, stress, etc. often carry over in to the workplace.

Static Handling

The definition of manual handling is:

"The transportation or supporting of a load (including lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or by bodily force."

The Manual Handling Operations Regulations 1992 (as amended) define a load to be "a discrete moveable object". However, any tool or piece of machinery used for its intended purpose is not considered to be a load.

You should take the following suggested load guidelines into consideration when performing manual handling operations:



Employees are legally required to:

- Take reasonable care of their own health and safety and that of their colleagues and clients.
- Use available work and safety equipment, in accordance with the training and instruction provided.
- Follow appropriate systems of work laid down by the employer in their manual handling policy.
- Use proper channels to inform management of possible hazards or shortcomings in manual handling activities.

Employers are legally required to:

- Avoid hazardous manual handling operations
- Make suitable and sufficient assessment of risks
- Reduce risk to lowest reasonably practicable level
- Provide general info, or precise information where reasonably practicable, on the weight and distribution of the load.

Dynamic Risk Assessment

As has already been discussed, before attempting any potentially hazardous manual handling operation you should pause and ask the question *"Does the object need to be moved manually at all?"* In many cases, manual handling operations can be completely removed with a little thought and forward planning. *If this is the case, then do it!*

There are however a range of operations that cannot be avoided, which carry a potential for producing injury - i.e. they include a degree of risk. Where it is not possible to completely remove the handling operation then it is your task to look closely at the operation and decide the nature and degree of risk involved - i.e. assess the handling operation.

The regulations identify four categories of assessment which are:

- Task
- Individual
- Load
- Environment

TASK



Stooping? Twisting? Over reaching? Carrying distance? Repetitive? Reaching upwards?

INDIVIDUAL



Require unusual capability? Risk to those pregnant?

Need for special training?

Risk injuring those susceptible to strains and sprains?

LOAD



Heavy? Bulky/unwieldly? Unstable/unpredictable? Difficult to grasp? Intrinsically Harmful?

ENVIRONMENT



Postural constraints? Poor floors? Variation in levels? Hot/cold/humid conditions? Strong air movements? Poor lighting conditions?

The Semi-Squat Technique

The Semi-squat technique is a safe and efficient approach to lifting and lowering, and reduces the risk to your back. It may be summarized by the key elements outlined below which make up the semi-squat technique. It is important to remember that adaptations to this technique may be used for awkward shaped loads.

5. Neck and Head

The neck and head should be in a relaxed neutral position maintaining good peripheral vision.

Main benefit – looking down tightens the muscles and encourages stooping which can be avoided when looking ahead. Maintaining peripheral vision gives a greater awareness of environmental risks e.g. passing traffic.

4. Hips and Back

This can now be straight but no longer upright. The movement must come from the hip joints.

Main benefit – the posture should be reminiscent of a weight lifter so focusing the lift to the legs. N.B. Those with lower back conditions may want to keep their backs slightly more upright while bending at the knees more.

3. Knees

Bend the knees but not beyond 90°. Keep the heels on the ground.

Main benefit – this reduces the flexing of the knee which can benefit those with knee problems.



2. Feet

Take a wide, slightly asymmetric stance.

Main benefit - with wider stance larger loads can be accommodated and the lift can be achieved within a good base of support...

6. Grip

Take a comfortable palm and whole finger grip.

Main benefit – the semi-squat lift is especially useful for lifting crates/trays or boxes with higher handles.

7. Load Close Keep the load close at all times.

Main benefit - the closer the load is to you, the more you reduce over-stretching and the leverage effect.



Before any manual handling event, a quick assessment should be completed considering the load, task, environment and the individual themselves.

Main benefit – don't lift objects which exceed the load limits. Use extra care with unpredictable loads, like those whose contents might lift for example.

Top heavy movement - the classical and harmful approach to lifting

Top heavy movement damages your back because it involves:



Description	Main Risk
Stooping	Bending your back puts pressure on your discs,
	increases the leverage effect and abuses the
	back muscles.
Twisting	The discs are placed under pressure when you
	stoop and twist your spine.
Over-stretching	This can lead to straining of the back muscles.
Parallel hands	You lack stability and cannot use your leg
and feet	muscles to lift.

Team Lifting

Once you have ascertained that the load in question is suitable for team lifting, you should then follow the correct dynamic handling procedure for team lifting.

