Musculoskeletal health in the workplace webinar.

3rd October 2023
12:00pm – 1:30pm

Please ensure you are muted when not speaking to avoid disrupting the session

Please be aware this session is being recorded
Speakers

Kim Sunley
Staff side chair of HSWG and Health, Safety and Wellbeing National Officer at the Royal College of Nursing

Jenny Michael
Management side chair of HSWG and Head of Health and Safety at Portsmouth Hospitals University NHS Trust

Martin McMahon
HM Inspector of Health and Safety at the Health and Safety Executive

Chris Quarrie
Specialist Policy Advisor at the Health and Safety Executive

Louise Church
Health, Safety and Wellbeing National Officer at the Royal College of Nursing

Claire Smith
Head of Organisational Development and Wellness at Health Education and Improvement Wales

Isaac Ferneyhough
Head of Moving & Handling at East Suffolk and North Essex NHS Foundation Trust
## Agenda

<table>
<thead>
<tr>
<th>Item</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair’s welcome</td>
<td>12:00</td>
</tr>
<tr>
<td>Jenny Michael, Management Side Chair of the NHS Staff Council Health, Safety and Wellbeing Group</td>
<td></td>
</tr>
<tr>
<td>Management of risk from musculoskeletal disorders - findings from the HSE inspections of NHS Trusts/Boards (2018-2022)</td>
<td>12:10</td>
</tr>
<tr>
<td>Martin McMahon, HM Inspector of Health and Safety</td>
<td></td>
</tr>
<tr>
<td>New musculoskeletal health resource - key sections and high-level overview</td>
<td>12:30</td>
</tr>
<tr>
<td>Louise Church, Health, Safety and Wellbeing National Officer</td>
<td></td>
</tr>
<tr>
<td>Claire Smith, Head of Organisational Development and Wellness</td>
<td></td>
</tr>
<tr>
<td>Isaac Ferneyhough, Head of Moving &amp; Handling</td>
<td></td>
</tr>
<tr>
<td>MSD Risk Management in Healthcare – assessing push/pull risk for non-clinical staff</td>
<td>12:50</td>
</tr>
<tr>
<td>Chris Quarrie, Specialist Policy Advisor</td>
<td></td>
</tr>
<tr>
<td>Questions &amp; answers</td>
<td>13:10</td>
</tr>
<tr>
<td>Closing remarks</td>
<td>13:25</td>
</tr>
<tr>
<td>Kim Sunley, Staff Side Chair of NHS Staff Council Health, Safety and Wellbeing Group</td>
<td></td>
</tr>
</tbody>
</table>
NHS Staff Council

Secretary of State for Health and Social Care (England)
Ministers for Health (Scotland, Wales, Northern Ireland)

NHS Staff Council

National Staff Partnership Forum

NHS Staff Council Executive

Job Evaluation Group
Health, Safety, Wellbeing Group
Equality, Diversity & Inclusion Group
Task & Finish Groups

NHS Pension Scheme Advisory Board

Working In Partnership

Health, Safety & Wellbeing Group
Management of risk from Musculoskeletal Disorders

Findings from HSE Inspections 2018-2022

Martin McMahon HM Inspector of Health and Safety
Health and Social Care Services Unit
MSDs Inspections Background

- 60 NHS Trusts and Boards inspected between 2018-22 on management of Musculoskeletal Disorders (MSDs) and workplace Violence & Aggression (V&A) risk

- Aligned with HSE Health and Work priorities

- Thorough management review based on ‘Plan, Do, Check, Act’ principles
  - Pre visit documentation review
  - numerous levels of engagement through Board to Frontline
  - feedback directly to senior management / Directors
MSD NHS Inspections Enforcement summary

- Includes:
  - 5 Improvement Notices in 2018-19 across 2 organisations
  - 9 Improvement Notices in 2019-20 across 5 organisations
  - 6 Improvement Notices in 2021-22 across 3 organisations
  - 28 (47%) of organisations inspected had enforcement taken

- Caution not to place too much weight on enforcement level trends as a small numerical change on small sample can have significant % impact

- Can be said that MSDs remain significant issue within healthcare

<table>
<thead>
<tr>
<th></th>
<th>Material Breach Rate</th>
<th>MSDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-19</td>
<td></td>
<td>10 (50%)</td>
</tr>
<tr>
<td>2019-20</td>
<td></td>
<td>11 (55%)</td>
</tr>
<tr>
<td>2021-22</td>
<td></td>
<td>7 (35%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>28 (47%)</td>
</tr>
</tbody>
</table>
Analysis of issues

• Inspections identified a range of issues that can be categorised into four broad areas
  – Risk assessment
  – Training
  – Roles and Responsibilities
  – Monitoring and Review
Risk Assessment

• Refers to the steps taken by NHS employers to conduct suitable and sufficient risk assessments to control the risk to employees from MSDs
  – assessments too generic, with high-risk areas not being identified;
  – assessments not including non-clinical workers who were exposed to the risk
  – inconsistencies in the approach to risk assessment across the same organisation.

Training

• Refers to the training on controlling risk from MSDs provided to employees
  – training too generic and lacked evidence it was based on a training needs analysis
  – where training was identified as mandatory, in practice it was optional
  – non-clinical workers exposed to the risk not included in training;
  – no suitable assessment of the competency of the trainers
Roles and Responsibilities

- Refers to the allocation of specific roles and responsibilities within the organisation to effectively supervise and manage the risk to employees from MSDs.
  - a lack of clarity over roles and responsibilities
  - a lack of wider organisational awareness of who does what
  - inadequate provision of time and resource given to those with roles and responsibilities
  - no suitable assessment of the competence of those with specific roles and responsibilities to carry out that work.

Monitoring and Review

- Refers to conducting effective monitoring and review of existing risk control measures to ensure they are effective and that the risks to employees from MSDs are being managed
  - failure to actively monitor and review control measures to ensure they are effective
  - insufficient time and resource allocated to monitoring and review
  - failure to use available data sources (e.g. absence data, incident reporting) or engage other departments (H&S, OH, HR) in the review process
  - a lack of clarity over what should be reported and how, leading to non-reporting.
Positives

• 22 (37%) out of 60 visits had no formal enforcement action taken
  – Even where action was taken there was still compliance with other duties

• Although caution with a low sample, there was a drop in formal enforcement between campaigns in 2019-20 and 2021-22
  – 55% to 35% for MSDs

• Some innovative practice observed
  – Designing out manual handling risk when developing new hospital facility
  – Innovative IT solutions for tracking course attendance and equipment maintenance
MSDs in NHS - Plan for 2023-24

- Letter and Report to NHS Trust / Board CEOs – copy available
  - Highlight findings of 2018-22 Inspections (alongside workplace Violence & Aggression (V&A))
  - Advise of Assurance Inspection Campaign
  - HSE ebulletin - [HSE ebulletin: Managing violence and aggression and MSDs in the NHS (govdelivery.com)]

- Assurance Inspection Campaign (alongside management of V&A)
  - Step one – high level HSE Senior Operations Manager / NHS CEO meeting to discuss
    - Organisational measures in place to address the findings.
    - Leadership in ensuring sufficient attention, resource and priority given
  - Step two – ‘on the ground’ inspections to assess delivery and effectiveness of those measures
    - Engagement with cross section of management and workforce
New Musculoskeletal Health Resource

Louise Church - Health, Safety and Wellbeing National Officer at the Royal College of Nursing

Claire Smith - Head of Organisational Development and Wellness at Health Education and Improvement Wales

Isaac Ferneyhough - Head of Moving & Handling at East Suffolk and North Essex NHS Foundation Trust
Back in work back pack
The new resource

Who is it for?
- Wide audience of professionals: health and safety teams, occupational health, ergonomists, back care professionals, employers, managers, staff and trade union representatives

What is the purpose of the resource?
- Advise and support employers and managers on:
  - preventing musculoskeletal disorders (MSDs)
  - supporting staff with pre-existing MSDs
- Inform employees how they can promote, protect and support their musculoskeletal health and where to get more detailed advice
- Support managers and safety representatives to work together to prevent MSDs, ill health and injury from work

Guidance on musculoskeletal health in the workplace

This updated guidance is aimed at staff at all levels of NHS organisations, to help promote, protect and support musculoskeletal health.

28 September 2023
Why is managing musculoskeletal health important?

Prevention, early detection and treatment of issues is key.

68,000 work related cases MSDs – 22% in human health and social care
(Source: LFS, estimated annual average 2019/20-2021/22)

Risks are not just patient handling roles.

2. Tasks that increase the risk of upper limb disorders or aggravate them include:
   - prolonged repetitive work
   - uncomfortable or awkward postures
   - lack of suitable rest breaks when carrying out tasks for a long time
   - using handheld power tools/vibrating equipment for long periods of time.

Symptoms include:
   - aches and pains, tenderness, weakness, tingling, numbness, cramp, burning, redness and swelling
   - stiffness, pain or reduced movement in joints.
Legal requirements

Manual Handling Operations Regs 1992/
Manual Handling Operations Regulations (Northern Ireland) 1992

Hierarchy of measures
• Avoid manual handling
• Suitable and sufficient assessment of the risk of injury
• Reduce the risk of injury

Employees especially at risk

Reasonable adjustments
Risk assessment and risk management

Determine specific assessments required

Training and competency

Engagement and consultation of staff and safety representatives
  • Innovation

Implementing the risk assessment

Training staff
Moving and handling of patients

Patients should be encouraged to move independently and contribute to movement

Use of and maintenance and inspection of hoists, sliding aids and specialist lifting equipment and handling aids

Bariatric patients
Employees, Managers and Employers

PROMOTE
PREVENT
SUPPORT
The role of Safety Representatives in preventing work related MSDs

Encourage members to follow protocols and procedures

Consultation
  • New technology, new equipment, new ways of working
  • Information for employees on risks to H&S and preventative measures
  • H&S training
  • H&S consequences of new technology
  • Arrangements for ensuring access to competent people

Inspections of the workplace

H&S Committee
Resource: Inspection sample questions

Job design
• Risk management and procedures
• Environment
• Equipment

Organisation

Individual

<table>
<thead>
<tr>
<th>INDIVIDUAL</th>
<th>Yes/ No/N/A</th>
<th>Further comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are staff encouraged to report any aches/ pain/ discomfort to their line manager?</td>
<td>Yes No □ □</td>
<td></td>
</tr>
<tr>
<td>Are staff given the opportunity in appraisals/ one to ones to discuss concerns about health issues which may affect them from doing their work?</td>
<td>Yes No □ □</td>
<td></td>
</tr>
<tr>
<td>Where appropriate, are individual manual handling risk assessments undertaken with staff members?</td>
<td>Yes No □ □</td>
<td></td>
</tr>
<tr>
<td>Has the employer implemented a health ability passport or similar scheme to take into account an individual’s requirements for specific workplace adjustments due</td>
<td>Yes No □ □</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk management and procedures</th>
<th>Yes/ No/N/A</th>
<th>Further comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are all line managers sufficiently trained in risk management and undertaking risk assessments?</td>
<td>Yes No □ □</td>
<td></td>
</tr>
<tr>
<td>Are jobs/tasks designed to eliminate or minimise manual handling?</td>
<td>Yes No □ □</td>
<td></td>
</tr>
<tr>
<td>Are repetitive actions minimised?</td>
<td>Yes No □ □</td>
<td></td>
</tr>
<tr>
<td>Is frequent or prolonged stooping, stretching or reaching above shoulder height, or sideways twisting of the body, avoided?</td>
<td>Yes No □ □</td>
<td></td>
</tr>
<tr>
<td>Are staff able to take sufficient breaks from standing for long periods of time?</td>
<td>Yes No □ □</td>
<td></td>
</tr>
<tr>
<td>Is kneeling/ bending for long periods of time</td>
<td>Yes □</td>
<td></td>
</tr>
</tbody>
</table>

NHS Staff Council
Health, Safety
& Wellbeing Group

Working In Partnership
Outline of Presentation

• Overview of the relevant regulations

• NHS Inspection Campaign review findings – points I will cover

• HSE tools for manual handling and pushing and pulling – with focus on non-clinical staff

• HSEs Risk Assessment for Pushing and Pulling Tasks

• What does good look like?

• What are HSEs expectations?

• MSD Design awards
Manual Handling Operations Regulations 1992

AVOID (Reg 4(1)(a))
- hazardous operations SFARP

ASSESS (Reg 4(1)(b)(i))
- any hazardous operations that cannot be avoided

REDUCE (Reg 4(1)(b)(ii))
- the risk of injury ALARP

MONITOR / REVIEW (Reg 4(2))
- to monitor risks

...any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force.
Risk assessment and Monitoring and Review

Risk Assessment

This refers to the steps taken by NHS employers to conduct suitable and sufficient risk assessments to control the risk to employees from MSDs and V&A. Issues identified during the visits included:

• 
  assessments being too generic, with high-risk areas not being identified;
• 
  assessments not including non-clinical workers who were exposed to the risk;
• 
  inconsistencies in the approach to risk assessment across the same organisation.

Monitoring and Review

Issues identified during the visits included:

• failure to actively monitor and review control measures to ensure they are effective;
Manual Handling Risk Assessment

MAC
- Quick check
- Highlights high risk
- Highlights key risks
- Enables communication

RAPP
- Full risk assessment
- Wide scope
- Adheres to “Schedule 1”
- Complies with European Directive 90/269/EEC

L23
RAPP Tool – Introduction

It is intended to be used alongside the Manual handling assessment charts (the MAC tool)\(^1\) which helps assess lifting and carrying operations, and follows a similar approach to that tool. It is aimed at those responsible for health and safety in workplaces and will help you to identify high-risk pushing and pulling activities and check the effectiveness of any risk-reduction measures.
Risk assessment for pushing and pulling (RAPP)

- Think of it as the push-pull MAC
- Published September 2016
- Same principles as the MAC
  - Flow chart of risk factors
  - Assessment guide
  - Traffic light system
  - Score sheet
Where the RAPP can be used

Section A: Moving loads on wheeled equipment

Section B: Moving loads without wheels
Section A – Wheeled equipment

Small
(one/two wheels)

Medium
(three/four wheels)

Large
(large or on rails)
Section B – Loads without wheels
Wheeled equipment - Load weight

Moving patients on beds
Food trolleys
Roll cages
Industrial bins etc.

Medium, with three or more fixed wheels and/or castors: eg roll cages, Euro bins.

<table>
<thead>
<tr>
<th>Load Weight</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 260 kg</td>
<td>Low G/0</td>
</tr>
<tr>
<td>250 kg to 500 kg</td>
<td>Medium A/2</td>
</tr>
<tr>
<td>500 kg to 750 kg</td>
<td>High R/2</td>
</tr>
<tr>
<td>More than 750 kg</td>
<td>Very high R/8</td>
</tr>
<tr>
<td>Load exceeds equipment’s rated capacity, manufacturer’s recommended maximum weight</td>
<td>Unacceptable P</td>
</tr>
</tbody>
</table>
A-2 Posture

Observe the general positions of the hands and the body during the operation.

<table>
<thead>
<tr>
<th>Good G/O</th>
<th>Reasonable R/O</th>
<th>Poor P/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torso is largely upright, and</td>
<td>Body is inclined in direction of exertion, or</td>
<td>Body is severely inclined, or worker squats, knees or needs to push with their back against the load, or</td>
</tr>
<tr>
<td>Torso is not twisted, and</td>
<td>Torso is noticeably bent or twisted, or</td>
<td>Torso is severely bent or twisted, or</td>
</tr>
<tr>
<td>Hands are between hip and shoulder height</td>
<td>Hands are below hip height</td>
<td>Hands are behind or on one side of body or above shoulder height</td>
</tr>
</tbody>
</table>

© Crown Copyright, HSE 2017
A-3 Hand grip

Observe how the hand(s) grip or contact the equipment during pushing or pulling, if the operation involves both pushing and pulling, assess the hand grip for both actions.

- **Good G/0**: There are handles or handhold areas which allow a comfortable power grip for pulling or comfortable full-hand contact for pushing.
- **Reasonable A/1**: There are handhold areas, but they only allow a partial grip, eg fingers clamped at 90°, or partial hand contact for pushing.
- **Poor R/2**: There are no handles or the hand contact is uncomfortable.

---

© Crown Copyright, HSE 2017
A-4 Work pattern

Observe the work, noting whether the operation is repetitive (five or more transfers per minute) and whether the worker sets the pace of work. Ask workers about their pattern of breaks and other opportunities to rest or recover from the work.

<table>
<thead>
<tr>
<th>Good G/0</th>
<th>Reasonable A/1</th>
<th>Poor R/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>The work is not repetitive (fewer than five transfers per minute), and</td>
<td>The work is repetitive, but</td>
<td>The work is repetitive, and</td>
</tr>
<tr>
<td>The pace of work is set by the worker</td>
<td>There is opportunity for rest or recovery through formal and informal breaks or job rotation</td>
<td>No formal/informal breaks or job rotation opportunities are provided</td>
</tr>
</tbody>
</table>
A-5 Travel distance

Determine the distance from start to finish for a single trip.

- If the operation is not repetitive, do an assessment for the longest trip.
- If the operation is repetitive, determine the average distance for at least five trips.

<table>
<thead>
<tr>
<th>Short G/0</th>
<th>Medium A/1</th>
<th>Long R/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 m or less</td>
<td>Between 10 m and 30 m</td>
<td>More than 30 m</td>
</tr>
</tbody>
</table>
A-6 Condition of equipment

Enquire about the maintenance programme and observe the general state of repair of the equipment (condition of the wheels, bearings and brakes).

<table>
<thead>
<tr>
<th>Condition of equipment</th>
<th>Good G/0</th>
<th>Reasonable A/2</th>
<th>Poor R/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance is planned and preventive, and</td>
<td>Maintenance occurs only as problems arise, or</td>
<td>Maintenance is not planned (there is no clear system in place), or</td>
<td></td>
</tr>
<tr>
<td>Equipment is in a good state of repair</td>
<td>Equipment is in a reasonable state of repair</td>
<td>Equipment is in a poor state of repair</td>
<td></td>
</tr>
</tbody>
</table>
A-7 Floor surface

Identify the condition of the surfaces along the route and determine the level of risk using the following criteria.

<table>
<thead>
<tr>
<th>Good G/0</th>
<th>Reasonable A/1</th>
<th>Poor R/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry and clean, and</td>
<td>Mostly dry and clean (damp or debris in some areas), or</td>
<td>Contaminated (wet or debris in several areas), or</td>
</tr>
<tr>
<td>Level, and</td>
<td>Sloping (gradient is between 3° and 5°), or</td>
<td>Steep slope (gradient is more than 5°), or</td>
</tr>
<tr>
<td>Firm, and</td>
<td>Reasonably firm underfoot (eg carpet), or</td>
<td>Soft or unstable underfoot (gravel, sand, mud), or</td>
</tr>
<tr>
<td>Good condition (not damaged or uneven)</td>
<td>Poor condition (minor damage)</td>
<td>Very poor condition (severe damage)</td>
</tr>
</tbody>
</table>

Condition of equipment
A-8 Obstacles along the route

Check the route for obstacles. Note if the equipment is moved over trailing cables, across raised edges, up or down steep ramps (gradient of more than 5°), up or down steps, through closed/narrow doors, screens or confined spaces, around bends and corners or objects. Each type of obstacle should only be counted once no matter how many times it occurs.

<table>
<thead>
<tr>
<th>Good G/0</th>
<th>Reasonable A/2</th>
<th>Poor R/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No obstacles</td>
<td>One type of obstacle but no steps or steep ramps</td>
<td>Steps, steep ramps or two or more other types of obstacle</td>
</tr>
</tbody>
</table>
A-9 Other factors

Identify any other factors, for example:

- the equipment or load is unstable;
- the load is large and obstructs the worker’s view of where they are moving;
- the equipment or load is sharp, hot or otherwise potentially damaging to touch;
- there are poor lighting conditions;
- there are extreme hot or cold temperatures or high humidity;
- there are gusts of wind or other strong air movements;
- personal protective equipment or clothing makes using the equipment more difficult.

<table>
<thead>
<tr>
<th>None G/0</th>
<th>One A/1</th>
<th>Two or more R/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>No other factors present</td>
<td>One factor present</td>
<td>Two or more factors present</td>
</tr>
</tbody>
</table>
Score sheet: Pushing or pulling loads on wheeled equipment

<table>
<thead>
<tr>
<th>Assessor name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company name:</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Detailed description:**

**Are there indications that the operation is high risk? [Tick appropriate box]**

- The operation has a history of incidents (e.g., company accident book records, RIDDOR reports).
- The operation is known to be hard or high-risk work.
- Employees doing the work show signs that they are finding it hard (e.g., breathing heavily, red-faced, sweating).
- Discussions with employees doing the operation indicate that some aspects are difficult.
- Other indications, if so, what?
Note: the total scores are for prioritising further risk control measures – they do not relate to risk of injury!

<table>
<thead>
<tr>
<th>Factors</th>
<th>Small equipment</th>
<th>Medium equipment</th>
<th>Large equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1 Load weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-2 Posture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-3 Hand grip</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-4 Work pattern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-5 Travel distance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-6 Condition of equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-7 Floor surface</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-8 Obstacles on route</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-9 Other factors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total score</strong></td>
<td>![Green]</td>
<td>![Green]</td>
<td>![Green]</td>
</tr>
</tbody>
</table>

*Note individual capability, e.g. vulnerable workers, or psychosocial issues*
Free Digital MSD Assessment Tools

**Free Single Assessment MAC Tool**

The assessment side of the solution is available for free.

**Free Single Assessment RAPP Tool**

The assessment side of the solution is available for free.

**Free Single Assessment ART Tool**

The assessment side of the solution is available for free.

Find out more
MSD digital tools
MSD digital tools
• Get the tools free
• Videos of tools in action
• Example MAC tool for you to try
• Price list for Premium version
So, what does good look like?

Electric powered beds – useful for bariatric patients, navigating corridor gradients
Electric powered meal trollies
Master mover

Device for moving roll cages and other items
Some simple advice

• Store heavier items at or around waist height

• Keep lighter items positioned lower or higher on shelving if applicable

• Keep storage areas decluttered as not to create postural/trip issues

• Wedge doors open to prevent double handling

• Always adopt the correct handling technique
What is a HSE Inspectors expectations?

- An effective MSD risk management system that includes (but not exclusive to)

  Effective risk assessment and effective risk control measures

  Competence of staff at all levels

  Employee consultation during risk assessment AND risk control

  Regular monitoring/review of controls measures

  Regular cross departmental engagement (e.g. between H&S department, HR department and Occupational Health) to help establish any potential areas of concern
'Risk-Reduction through design' Award – MSDs

HSE – Risk Reduction through Design Awards 2023

Winning Nomination

Employer: Zebra Technologies Europe Limited (Preston)

Designers: Zebra Technologies

Title: Reduction of manual handling of printed rolls and boxes

The new layout has helped reduce the amount of lifting I have to do throughout the day. In addition, with the new equipment, I can control the lifting range to suit my height and this has all but reduced the need to bend during the operation. I feel the new layout has taken a lot of the stress and strain out of the task for the operators and made it a safer operation.

BEFORE

1. The operator lifts the finished roll off the printing press and then, by bending and twisting down, places the finished roll onto the pallet which is located at ground level (photo 1).
2. A full pallet is then taken by pallet truck to the packing area to be bowed. The operator then lifts the rolls from the pallet onto the packing line.
3. The box then goes through the packing machine and is sealed. The operator lifts the sealed box from the packing line, bending and twisting to place it down onto the pallet at ground level (photo 2).
4. Each roll weighs up to 8kg, with typically 2 rolls per box. Employees lift around 50 boxes per pallet and complete 2 pallets per shift.

AFTER

1. Operators were consulted and process design changes made. The boxing machine was moved adjacent to the packing line to reduce the lifting task.
2. The maintenance team designed a cradle that fits onto the existing boxing machine which allows the whole unit to raise, lower and tilt to suit each of the operator’s needs to help reduce and address musculoskeletal issues.
3. The finished roll emerges from the printing press and the operator takes off the roll (photo 3) and places it directly into the box, where it is sealed by the packing machine and emerges on a short conveyor.
4. The operator transfers the sealed boxes onto an adjustable pallet rack (photo 4) to keep the manual handling at the same height. Following successful trials, the new layout was rolled out to 11 printing presses.
The task is now so much simpler and easier to complete, it now takes seconds to move and has taken all the weight and the issues of the platform away.
Questions & Answers
The health, safety and wellbeing group’s (HSWG) resources can be found on the NHS Employers website.
Thank you.