Introduction to Musculoskeletal Disorders

Professor Karen Walker-Bone
Director, Arthritis Research UK/MRC Centre for Musculoskeletal Health and Work
What are Musculoskeletal disorders?
Why do they matter?

- Musculoskeletal disorders are COMMON
- 10 million people affected
- Heterogeneous e.g. (mechanical) low back pain, neck pain, rheumatoid arthritis and osteoarthritis
- MSDs are more common at older ages
- And Western economies need people to work to older ages...

Knee osteoarthritis
New UK disability claims are among the highest in the OECD
New claims per 1,000 of the working-age population (inflow rates), latest year available
Two MAIN causes

- Mental health
- MSDs
Two MAIN causes

Mental health

MSDs
A real story

- A 45 year old female ambidextrous employee in a bank
- Full-time employee for > 12 years
- Recruited to do office administration including work with machines which sorted and organised envelopes
- Work described as requiring precision but not physically taxing
Over time..

- Over 5-6 years, two staff members retired and were not replaced
- Job description altered to include more office work as well as machine work
- Hand sorting letters became part of the workload
- Initially 1300 letters/day
Changes..

- Gradual but steady increase in workload
- 1500 letters/day increased up to 13,000 some days
- All had to be sorted by 2.30pm by hand
- Machine work still needed to be completed daily
- Increased demands, deadlines tight and felt ‘pressured’
Suddenly

• Sudden onset discomfort in her left thumb
• Progressed quickly over two days such that within 2 days, she had acute locking of interphalangeal joint left thumb
• Pain radiated proximally to elbow and upper arm
Symptom progression

- First day after the locking occurred, went to work as usual and reported pain and symptoms to Line Manager
- Sent home to rest. Repeated the same pattern for 13 days then Occupational Health team called in
- Advised that she must not work, must go off sick and report to her GP for assessment
Assessment in primary care

- GP prescribed NSAIDs, wrist support and arranged physiotherapy
- Despite these, steady progression of symptoms
- Hand painful continuously, focussed around thumb, radial border of hand and forearm and gradually over 6 months, started to radiate proximally towards elbow
Assessment in secondary care

- I met this lady 2 years after onset of symptoms
- By this time, made redundant from Bank, taking statutory sick pay and attending job centre
- Symptoms now involving hand, forearm, shoulder and neck
- Chronic unrelenting pain, 7-8/10, marked disability despite co-codamol and regular NSAIDs
On examination

- Anxious lady, distressed and in pain
- Pain behaviour
- Poor posture: Exaggerated cervical lordosis and thoracic kyphosis
- Restricted cervical lateral rotation to the left
- Restricted range of motion in left shoulder: active and passive, abduction and external rotation and internal rotation (capsular pattern)
- Crepitus in IPJ of left thumb
- Chronic thickening of common extensor origin but not acute de Quervain's and provocation tests unconvincing
Impression

• 2 years of chronic non-specific arm pain
• “Work-related”
• Now secondary effects on shoulder and cervical spine (regional pain syndrome)
• At risk for chronic widespread pain
• Psychological impact of two years’ sickness absence
Conclusion.. And challenge!

- ANYONE is at risk of an MSD and most of us will get several in our lifetime!
- Commoner at older ages – going to be an increasing problem
- Need accommodating, supportive workplaces and work practices to enable work participation NOT JUST reduce risk of injury!
- How can we best PROMOTE musculoskeletal health at work?
Large Employer Case Study: Tackling MSDs by talking to the workers

Dan Shears
GMB National HS&E Director
1st November 2018
Background:

- GMB – General Union operating across all sectors of UK economy
- 625,000 members, split 50:50 public and private sector
- MSDs therefore a key issue for members across the board
- We take good practice and share it…
Case Study - Context:

Large multinational retailer – GMB membership across the UK distribution network ~ 30 sites; Ambient/Chill/Frozen

Longstanding union recognition, but H&S and Industrial Relations often intertwined

Employer proposes to increase pick rates in warehouses – challenged to ensure that this is done without causing harm
Historic issues

1. Company report states scope to increase rates; Union expert report suggests otherwise
2. Significant issues with long-term sickness absence, injuries and restricted duties
3. Heavily entrenched culture and way of working, because…
4. Seen as a good employer, so little worker turnover
What were the concerns?

1. **Single pick rate across site** – heavier items picked at the same rate as lighter items. Resulting in...

2. **Cherry Picking** – younger, stronger, taller (men) pick heavier goods; older, shorter workers (mostly women) pick lighter goods; somewhat resulting in...
Concerns (2)

3. **High rates of restricted duties** - caused by ‘wear and tear’ injuries, primarily to lower back and knees, partially caused by...

4. **‘Job and knock/job and finish’ culture** – workers could end shift once they had achieved their daily pick rate, so strong incentive to rush, because...

5. **Work itself** - tedious with little satisfaction
What did we do?

Agreement that this was a joint issue needing a joint solution:

- employer wants increased productivity;
- workers want health safeguarded;
- everyone wants to reduce sickness absence and reduce restricted duties

Agreed a single report from experts – HSL long form study
What did we do? (2)

Note that the issue was not manual handling technique, or training standards – issue was pace and variety of work.

Do the easy thing first: Immediate end to ‘job and finish’ agreed by all.

- Major change to working practice
- Perceived to be a key stumbling block…
- …but communicated by Union and fellow workers so had credibility
Injuries are cumulative – Marathon, not a sprint
‘Job and finish’ ceased immediately and without complaint. Introduced job and task rotation – workers rotated from heavy to medium and light pick. Workers retrained into secondary role – “second skilling”: FLT; Goods In etc. Got those on restricted duties back to work.
What did we do? (4)

Stressed the importance of **breaks**, and encouraged everyone to take them

All tasks risk assessed, and rotation given specific targets: Aiming **for no more than 60% of working week spent picking** (achieving this on many sites)

**Work environment redesigned** to improve ease of pick and minimise ‘travel time’.
Outcomes:

‘Job and finish’ immediately ended

• **Pace of work more measured**, even at higher rate

Task and job rotation gave greater variety

• Moving around the system stopped extreme repetitive movements, and **provided greater stimulation**

Involvement gave workforce a stake

• Workers now **teams, not individuals** – helping each other to achieve rates
Successes

MSD Injury Rates stabilised, then fell

Return to work was achieved for most workers on long-term absence or restricted duties

Increased pick rate achieved and sustained – secured the future in face of automation

New ‘partnership’ approach built on mutual respect
Key Takeaways

You can have top-notch manual handling training and techniques and still experience problems.

Listening to the ideas of the workforce can give low/no cost solutions.

Variety is always a benefit – physically and mentally.
More Key Takeaways

‘The way we do things’ can change overnight if your workers are invested in the change and understand the reasons.

The MSD problems here were really caused by a lack of imagination – no one realised change could be effected, so no-one did it.

None of this is difficult – but it takes time and persistence.
Thank You!

Questions, comments etc?...

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Twitter: @SaferWithGMB
Keeping Our People Safe

MSD Case Study

Lauren Hickling, Head of Safety - Contract Merchanting Division
Who Are We?
Our Key Risk Areas

- Manual Handling
- Working At Height
- Product Storage & Transportation
- Keeping People and Vehicles Apart
The Devolution of the Keyline Colleague
What We Did.....
Other Ideas From Our Colleagues
What Did This Do For Us?

- **Improved Safety**
  - Reduction in the amount our colleague lift by at least 70%
  - 80% reduction in manual handling related lost time injuries

- **Improved Customer Service**
  - Customers served quicker
  - Less risk to our customers

- **Increased Colleague Engagement**
  - Sense of pride and ownership
Whats Next?

- **Wearable manual handling technology**
  - Soter Analytics Collaboration

- **Communication Campaign**
  - Quarterly Campaigns focusing on specific issues

- **Building wellbeing into our LiFT Programme**
  - Fueling your body
  - Stretching
Summary of Our Learnings

- Informal Engagement
- Focus on the true goal - Eliminate / Reduce dont just Train
- Keep The Focus
- Keep Trying New Things
MSDs: tools and resources

Margaret Hanson
BSc(Hons), C.ErgHF FIEHF, CMIOSH
Chartered Ergonomist, WorksOut
HSE risk assessment resources

Musculoskeletal disorders

Work-related musculoskeletal disorders (MSDs) are the most commonly reported cause of occupational ill health in Great Britain. MSDs are prevalent in all sectors, but agriculture, logistics and transport, construction and health and social care have significantly higher than average rates.

Manage Risk

L24 Workplace health, safety and welfare: ACOP
The Workplace Health, Safety and Welfare Regulations 1992 cover a wide range of basic health, safety and welfare issues and apply to most workplaces.
www.hse.gov.uk/msd/toolkit.htm

HSG60 Upper limb disorders in the workplace
A very detailed study for managers which explains how to identify and control upper limb disorders.

HSG220 Health and safety in care homes
This guidance is intended to help give a better understanding of the real risks and how to manage them effectively.

HSG268 The health and safety toolbox: How to control risks at work
Whatever line of work you’re in, the Toolbox provides advice to help you identify, assess and control the activities that might cause harm in your business.

Display screen equipment

INDG36 Working with display screen equipment (DSE): A brief guide
This leaflet explains what employers may need to do to protect their employees from the risks of DSE.

CH1 Display screen equipment (DSE) checklist
This checklist can be used by employers who need to comply with the Health and Safety (Display Screen Equipment) Regulations 1992.

L26 Work with display screen equipment, Health and Safety (Display Screen Equipment) Regulations: Guidance on Regulations
Comprehensive guidance on how to comply with the Regulations.
MSD Risk Management Approach

**Identify**
If, and where, there may be a problem

**Avoid**
*Hazardous tasks*

**Assess**
*Hazardous tasks*

**Reduce**
Eliminate or reduce risk

**Manage**
Risk reduction measures. Those with MSDs
# Body mapping tool

<table>
<thead>
<tr>
<th></th>
<th>Have you at any time during the <strong>last three months</strong> had trouble (such as ache, pain, discomfort, numbness, tingling, or pins and needles) in your:</th>
<th>Have you had this trouble during the last <strong>seven days</strong>?</th>
<th>During the <strong>last three months</strong> has this trouble prevented you carrying out normal activities (e.g. job, housework, hobbies)?</th>
<th>During the <strong>last three months</strong> has this trouble been caused or made worse by your job?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Neck</strong></td>
<td>1 No</td>
<td>2 Yes</td>
<td>3 No</td>
<td>4 No&lt;br&gt;1 Yes&lt;br&gt;2 Caused&lt;br&gt;3 Made worse</td>
</tr>
<tr>
<td><strong>Shoulders</strong></td>
<td>5 No&lt;br&gt;1 Left only&lt;br&gt;2 Right only&lt;br&gt;3 Both</td>
<td>6 No&lt;br&gt;1 Left only&lt;br&gt;2 Right only&lt;br&gt;3 Both</td>
<td>7 No&lt;br&gt;1 Left only&lt;br&gt;2 Right only&lt;br&gt;3 Both</td>
<td>8 No&lt;br&gt;1 Left only&lt;br&gt;2 Right only&lt;br&gt;3 Caused&lt;br&gt;4 Made worse</td>
</tr>
</tbody>
</table>
Avoid

Design out risks:

• Work items
• Equipment
• Work area

(see ideas under reducing risk)
The heaviest item lifted is at least 2 kg heavier than the lightest

All items lifted of carried weigh about the same

The heaviest item lifted is at least 2 kg heavier than the lightest

Items weigh less than ~ 4 kg
The task is mostly upper-limb
Which MH risk assessment tool?

Does the task meet the assumptions of the correct simple filter and is it within the filter values?

Yes

Assessment finished

Simple filter

- lifting & lowering
- carrying <10m
- pushing & pulling <20m
- seated handling

L23 Simple Risk Filters – Lifting and Carrying

For Lifting, if:
- Load is easy to grasp with both hands.
- Operation takes place in reasonable environment.
- Handler has a stable body position.

For Carrying, if the load:
- is held against the body;
- is carried < about 10 m without resting;
- does not prevent walking normally;
- does not obstruct view;
- does not require the hands to be held below knuckle height or much above elbow height.
Which MH risk assessment tool?


L23, Appendix, 4-22
- lifting & lowering
- carrying <10m
- pushing & pulling <20m
- seated handling
MAC – newly revised, Nov 2018

Replaces previous version

Main changes:
• Fuller explanation of some aspects
• Additional diagrams to clarify
• Some altered scores
• Greater focus on control measures

Which MH risk assessment tool?


L23, Appendix, 4-22
- lifting & lowering
- carrying <10m
- pushing & pulling <20m
- seated handling

www.hse.gov.uk/pubns/ck5.pdf
Which upper limb risk assessment tool?

- [HSE](www.hse.gov.uk/pubns/indg438.pdf)
- [RULA](www.hse.gov.uk/pubns/priced/hsg60.pdf)
- [www.rula.co.uk](www.rula.co.uk)
DSE risk assessment

Display screen equipment (DSE) workstation checklist

The following checklist can be used to help you complete a risk assessment and comply with the Schedule to the Health and Safety (Display Screen Equipment)

www.hse.gov.uk/pubns/ck1.pdf
‘Risk reduction by design’ award

Winner 2017

Examples:
http://www.hse.gov.uk/msd/experience.htm

Case studies that show the benefits of tackling MSDs:
www.hse.gov.uk/research/rrpdf/rr491.pdf
www.ergonomics.org.uk/Public/Resources/Publications/Case_Studies.aspx

Lifting and handling aids:
www.hse.gov.uk/pubns/indg398.pdf
www.hse.gov.uk/pubns/priced/hsg268.pdf
www.hse.gov.uk/pubns/priced/hsg60.pdf
www.tsoshop.co.uk
Additional support

www.hse.gov.uk/msd/external-help.htm
Guidance: HSE / TUC

www.tuc.org.uk/sites/default/files/MSD_2018_Signposting.pdf
Guidance: Scottish Centre for Healthy Working Lives

Muscles bones and joints
How to prevent common injuries to muscles, bones and joints

Healthy muscles, bones and joints are important to a fit active lifestyle and a safe and secure working life. To protect these from injury and illness such as back pain or repetitive strain symptoms you could adopt safe working practices, understand risks and responsibilities and spot patterns or trends in workplace incidents, accidents or absence.

Use the links below to find information on where such risks come from, signs and symptoms to look out for and what you can do to prevent such injuries.

1. Common injuries to muscles, bones and joints
2. Preventing injuries to muscles, bones and joints

www.healthyworkinglives.scot/workplace-guidance/health-risks/muscles-bones-joints/Pages/common-injuries.aspx
Ill health and absence

How to record and support staff attendance in your organisation

Supporting staff attendance
What to include and how to create your policy

Recording staff attendance
Understand your obligations for recording staff attendance and how to fulfil them

Supporting a return to work
What you should do to prepare for an employee to return to work

Manage the return to work process
Find out what you need to do to carry out an effective return to work

Employees with health conditions
Services that are available for employees with health conditions

NHS Inform: Self help advice

[Website Link]

<table>
<thead>
<tr>
<th>Problem</th>
<th>Self-management advice</th>
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<tbody>
<tr>
<td>Ankle problems</td>
<td>How to look after ankle problems and when to see your GP</td>
</tr>
<tr>
<td>Back problems</td>
<td>How to look after back problems and when to see your GP</td>
</tr>
<tr>
<td>Calf problems</td>
<td>How to look after calf problems and when to see your GP</td>
</tr>
<tr>
<td>Elbow problems</td>
<td>How to look after elbow problems and when to see your GP</td>
</tr>
<tr>
<td>Foot problems</td>
<td>How to look after foot problems and when to see your GP</td>
</tr>
<tr>
<td>Hip problems</td>
<td>How to look after hip problems and when to see your GP</td>
</tr>
<tr>
<td>Knee problems</td>
<td>How to look after knee problems and when to see your GP</td>
</tr>
<tr>
<td>Neck problems</td>
<td>How to look after neck problems and when to see your GP</td>
</tr>
<tr>
<td>Shoulder problems</td>
<td>How to look after shoulder problems and when to see your GP</td>
</tr>
<tr>
<td>Thigh problems</td>
<td>How to look after thigh problems and when to see your GP</td>
</tr>
<tr>
<td>Wrist, hand and finger problems</td>
<td>Advice for people aged 16 years or more with pain in their lower back</td>
</tr>
</tbody>
</table>
Thank you!

CIEHF: [www.ergonomics.org.uk](http://www.ergonomics.org.uk)

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