OFFICE OF RAIL REGULATION

ORR position paper on musculoskeletal disorders 2014

Contents

Musculoskeletal Disorders Position Paper

Purpose

In April 2014 we published our second occupational health programme for 2014-19 which focuses on embedding the health and wellbeing of railway workers into the culture of our industry. It seeks to move the rail industry beyond consistent legal compliance towards excellence in managing occupational health, ensuring a more efficient, productive and healthier workforce. This position paper supports both our health programme and our strategic risk priorities document, by setting out how we will work with the industry over the next five years to support improved management of the risks of musculoskeletal disorders (MSDs).

Vision

All rail employers are excellent at proactively managing MSD risks, as measured by the RM3 approach, including manual handling and injuries arising from repetitive work.

Employers reducing exposure to operations requiring manual handling by greater use of mechanisation as new technology develops.

There will be no new cases of work related upper limb disorders (including cramp, tendonitis, or tenosynovitis in the hand or forearm) reported to us under RIDDOR, or of cases with worsening symptoms.

We see a continued reduction in the manual handling injuries reported by the rail industry and published on ORR's National Rail Trends portal.

Aim/Target

1.1 All employers in the rail industry adequately manage the risk of workers sustaining a musculoskeletal injury or disorder in compliance with the Management of Health and Safety at Work Regulations 1999.

1.2 Risks from manual handling and repetitive work are properly assessed using established tools and guidance, and hazardous tasks minimised by appropriate use of mechanisation and suitable handling aids.

1.3 All employers should develop a culture of openness that allows accurate and consistent internal and external reporting of MSDs.

1.4 Employers should ensure employees who suffer from manual handling injuries receive the appropriate treatment and rehabilitation in a timely fashion and ensure they are fit for work on return.

Introduction

1.5 Musculoskeletal Disorders (MSDs) is the umbrella term for a large number of conditions affecting the skeletal muscles, ligaments, tendons and joints. It includes sprains, strains, back pain, sciatica, tennis elbow and carpal tunnel syndrome, etc. that affect the arms, shoulders, neck, back or legs. Symptoms may occur as a result of an identifiable event, or have a more gradual onset with initial tingling, slight swelling or soreness which may persist and gradually worsen.

1.6 Risk factors causing MSDs can be found in virtually every railway workplace. Potential high risk tasks in railway maintenance, renewals and construction work may include extensive working on ballast; manual handling of heavy loads, tools and equipment, including loading, unloading and carrying long distances to site. Among train operators, MSD risks may arise from manual handling of passengers and their wheelchairs, and of catering trollies, on and off trains; repetitive work in administrative tasks including in ticket offices. Shoulder disorders have been reported amongst train guards who repeatedly operate poorly placed door controls in some trains, as well as upper and lower limb disorders in train drivers arising from prolonged static postures and task repetition. Other rail locations, including depots and yards will also present potential MSD risks, for example coupling/uncoupling operations, and cleaning, maintenance and testing of rolling stock.

1.7 The best predictor of future episodes of lower back pain is experience of a previous bout, back pain being recurrent and episodic, irrespective of working practices.

What the law requires

1.8 Regulation 3 of the Management of Health and Safety at Work Regulations 1999 requires that all employers assess the risks to the health and safety of their employees while they are at work. The Manual Handling Operations Regulations 1992 (as amended) require employers to avoid the need for manual handling as far as reasonably practicable if there is a possibility of injury. If this cannot be done then they must carry out a risk assessment of all manual handling tasks that pose an injury risk and take steps to reduce the risk of injury as far as reasonably practicable.

1.9 There are other regulations which apply to specific MSD risks including Health and Safety (Display Screen Equipment) Regulations 1992 as amended, Control of Vibration at Work Regulations 2005, and Provision and Use of Work Equipment Regulations 1998. New or worsening cases of specific types of upper limb disorder including carpal tunnel syndrome; and cramp, tendonitis or tenosynovitis of the hand or forearm, are legally reportable under The Reporting of Injuries, Diseases, and Dangerous Occurrences Regulations 2013 (RIDDOR). Further guidance is on our web site.

What we have done

1.10 Recent inspection work has looked at management of MSD risk on track, on trains, and at stations. On Network Rail (NR) infrastructure our inspection work found weaknesses in planning, risk assessment, and risk control for a range of manual handling tasks, including carrying to site and installation of heavy equipment and components, including for example welding equipment, heavy concrete troughing, and redesigned stretcher bars. Formal enforcement action was taken prohibiting the on manual lifting and carrying of C143 concrete troughing pieces (weighing 115kg) Network Rail responded quickly to brief all their contractors and is exploring alternative options, including mechanical handling aids and lighter weight composite troughing.

1.11 Our recent work with rail operators on MSD risk has focused on securing better risk assessments and controls for assisting disabled passengers with wheelchairs getting on and off trains. We have worked with ATOC to produce good practice guidance for rail staff, managers and users. Ensuring the safety of staff and wheelchair users as well as keeping trains running to time is a challenge, especially when the industry strives to assist those passengers who wish a “turn up and go” service. However with stepping distances being quite pronounced at some locations pushing heavy wheelchairs up a steep ramp can expose staff to risk of manual handling injuries, and duty holders need to properly assess the risk of injury from such activities.

1.12 We have also worked with train operating companies (TOCs) on management of risks from on board manual handling of fully laden catering trollies, where we found some weaknesses in the manual handling assessment processes. Training provided to employees was considered to be sufficient and adequate. Employees spoke positively about the safety briefings provided.

1.13 We have participated in the UK mirror group to CEN/TC256/SC3/WG37- Driver’s cab that has been drafting a 4-part European standard on cab ergonomics that looks to prevent the onset of musculoskeletal injury by design. Part 1 (prEN16186-1) covering the anthropometric and visibility aspects of design and part 3 (prEN16186-3) on the “Design of displays” have reached formal voting stage.

Where the industry is

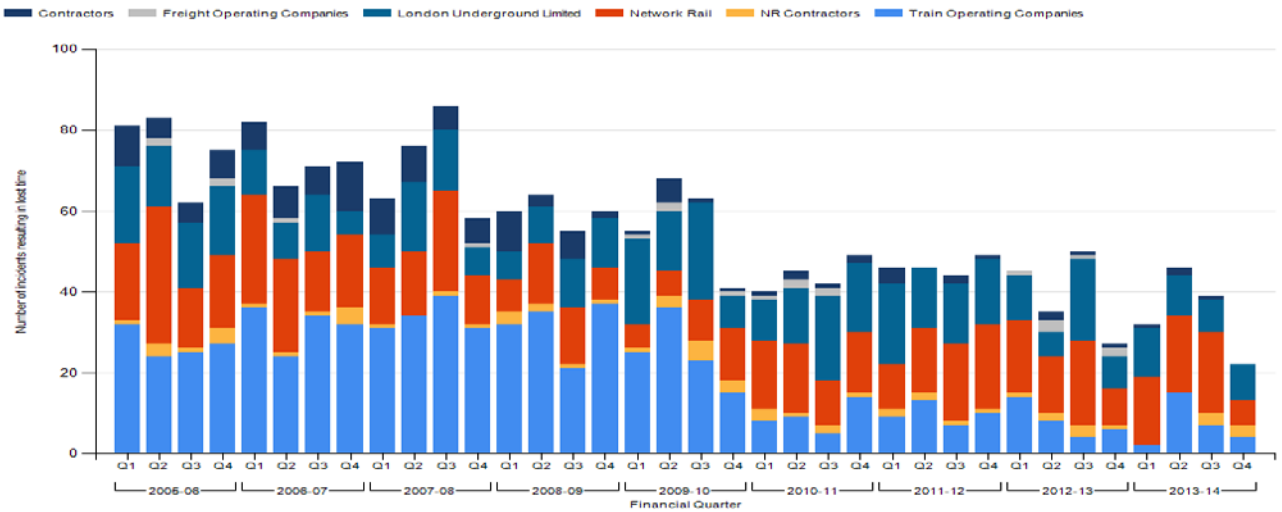
1.14 The numbers of cases of upper limb disorder reported to us under RIDDOR remains low, typically one or two a year. Over the four years 1 April 2010 to 31 March 2014, 10 cases of work related lower limb disorder were reported to us – these included 8 cases of carpal tunnel syndrome, and 2 of tendonitis/tenosynovitis of the hand or forearm.

1.15 Industry data for the mainline shows a downward trend in the manual handling injuries reported into SMIS over the last five years. There were 2618 reports in 2013/14, of which almost 34% resulted in some

lost time. The overall trend in manual handling incidents since 2005 has been downwards; this has been particularly evident in the numbers of lost time incidents – 2013/14 saw 49% fewer lost time incidents reported into SMIS than in 2005.

1.16 London Underground (LU) data shows a decrease in manual handling injuries between 2011/12 and 2013/14, with a 39% reduction in the total number of handling injuries and a 41% reduction in lost time injuries. Over this period LU used initiatives aimed at preventing MSDs and reducing absence times, including lower limb classes and lower back pain physiotherapy services. 2010/11 saw a marked upturn in the number of manual handling injuries reported in LU, with a 42% increase on those reported in 2009/10. This increase in absolute numbers may not reflect an actual increase in manual handling incidence rates, as 2011 saw Tube Lines employees transferred to LU, increasing the size of the maintenance workforce (a high risk group).

1.17 The downward trend in manual handling injuries across the industry may be the result of better case management for individuals, including early intervention, and better rehabilitation to support earlier return to work.



Key results:

i) In 2013-14 there were a total of 139 recorded manual handling incidents resulting in lost time, a decrease of 11.5% compared to 2012-13. This is the lowest number of incidents in any financial year since the beginning of the time series in 2005-06.

ii) The number of manual handling incidents resulting in lost time recorded in 2013-14 Q4 was 22; this is the lowest number

in any quarter since the time series began in 2005-06.

Notes and Methodology:
This measure comprises the number of manual handling injuries resulting in lost time reported by RSSB and London Underground. Following receipt of the data from the RSSB and London Underground no further calculations are undertaken with the data.

Source:
RSSB (Rail Safety and Standards Board) and London Underground Ltd
Publication schedule:
Published: 26 June 2014

1.18 We have seen encouraging examples of good practice in managing MSD risk. LU has reduced manual handling risks in some station maintenance and renewals by installing mechanical lifting equipment down to platform level, reducing the use the stairs. LU contractors carrying out train carriage refurbishment found that use of longer handled pneumatic chisels to remove carriage flooring reduced the amount of crouching and kneeling, minimising the associated risks of MSDs. In addition to reducing the health risks, substitution of chisels increased productivity as they were quicker and easier to use.

1.19 Following a civil case for carpal tunnel syndrome in four train drivers, RSSB produced a risk assessment tool (known as the MAT tool) for managing the risk of MSDs in train cabs, aimed at passenger and freight train operators, as well as infrastructure contractors driving on track machines. The MAT tool provides a structured way of assessing the risk to drivers of MSDs using a combination of cab design, the driving task, and the individual 'fit' with the train cab. RSSB have run workshops and provided individual support for TOCs in use of this tool. Arriva Trains Wales and South West Trains good practice case studies on use of the MAT Tool for train drivers are on our web site.

1.20 Southern Trains commissioned research into the position of the train cab DSD pedal followed the results of questionnaires from their drivers that indicated that it could induce MSD problems. This resulted in the design and implementation of a pedal that required less force to operate. A good practice case study from Southern on the new DSD pedal is also on ORR's web site.

1.21 Rail trade union Safety Reps have been active in using the HSE short so-called Nordic Questionnaire (see Appendix A) that identifies the frequency of aches, pains or discomfort for nine body areas using a body mapping approach. Here respondents show how often they experience such discomfort and whether the discomfort has prevented them from doing their normal activities or has been made worse by their job.

1.22 ATOC & RSSB have produced a booklet which gives advice and information to wheelchair users on travelling on trains.

What needs to be done and how

1.23 ORR would expect to see :

(a) Consistent compliance with the regulatory requirements, with the hierarchy of control for MSD risks properly applied, including:

(i) eliminating or minimising MSD risk at the design stage, and during work planning and delivery, with increasing evidence of innovation in product design, and more of use mechanisation and appropriate handling aids;

(ii) risk assessments for MSD risks follow the principles in recognised tools such as HSE ART for repetitive tasks; MAC for manual handling; and MAT for the driving task;

(iii) improved monitoring and assurance within railway companies to check and demonstrate that MSD risks are being properly managed, including use of correct equipment and approved handling techniques, and provision of refresher training where necessary;

(iv) clients setting out clear expectations on MSD management by their contractors, and active monitoring and assurance on MSD throughout the supply chain;

(v) greater employer awareness of reportable MSDs under RIDDOR and more effective management of all MSD risks, particularly in the freight and heritage railway and tram industries;

(vi) effective procedures to report to ORR new and worsening cases of work related upper limb disorder under RIDDOR; and

(vii) more effective data collection of reportable MSDs to allow us to develop a better understanding of the scale of exposure and incidents in the rail industry.

We believe that better use of specialist resource from, for example, ergonomists and physiotherapists, with early intervention to reduce the length of absence associated with musculoskeletal disorders, would help the industry to move towards excellence in management of MSD risk. Providing a physiotherapy service has been shown by NR's pilot study (on ORR's website) to be cost effective, reducing the length of time workers were absence from work.

Appendix A

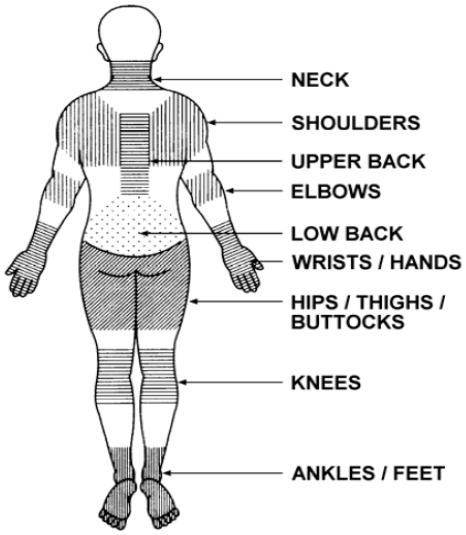
HSE Health and Safety Executive

Body mapping tool

This section asks about musculoskeletal disorders, such as aches or pains, you may have had recently. Please use the tick boxes - ☐ - to answer each of the four questions for each part of the body shown in the picture on the right.

The picture shows how the body has been divided. The areas of the body are not sharply defined and some parts overlap. You should decide for yourself which part (if any) is or has been affected.

Please make sure you put one tick only for each question. For example, you could answer 'Yes' for the right elbow, or the left elbow, or both elbows.



	Have you at any time during the **last three months** had trouble (such as ache, pain, discomfort, numbness, tingling, or pins and needles) in your:	Have you had this trouble during the last **seven days**?	During the **last three months** has this trouble prevented you carrying out normal activities (e.g. job, housework, hobbies)?	During the **last three months** has this trouble been caused or made worse by your job?
Neck	**1** No ☐ Yes ☐	**2** No ☐ Yes ☐	**3** No ☐ Yes ☐	**4** No ☐ Yes ☐ Caused ☐ Made worse
Shoulders	**5** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**6** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**7** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**8** No ☐ Yes ☐ Caused ☐ Made worse
Elbows	**9** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**10** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**11** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**12** No ☐ Yes ☐ Caused ☐ Made worse
Wrists/ hands	**13** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**14** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**15** No ☐ Yes ☐ Right only ☐ Left only ☐ Both	**16** No ☐ Yes ☐ Caused ☐ Made worse

Upper back	**17** No 1☐ Yes 2☐	**18** No 1☐ Yes 2☐	**19** No 1☐ Yes 2☐	**20** No 1☐ Yes 2☐ Caused 3☐ Made worse
Lower back (small of back)	**21** No 1☐ Yes 2☐	**22** No 1☐ Yes 2☐	**23** No 1☐ Yes 2☐	**24** No 1☐ Yes 2☐ Caused 3☐ Made worse
Hips/ thighs/ buttocks	**25** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**26** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**27** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**28** No 1☐ Yes 2☐ Caused 3☐ Made worse
Knees	**29** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**30** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**31** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**32** No 1☐ Yes 2☐ Caused 3☐ Made worse
Ankles/ feet	**33** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**34** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**35** No 1☐ Yes 2☐ Right only 3☐ Left only 4☐ Both	**36** No 1☐ Yes 2☐ Caused 3☐ Made worse

Source: HSE