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**WORK RELATED UPPER LIMB DISORDERS IN  
THE PRINTING INDUSTRY**

**HSL/2006/04**

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# EXECUTIVE SUMMARY

## OBJECTIVES

The principal objective of the project was to gather intelligence about Work Related Upper Limb Disorders (WRULDs) in the printing industry.

Intelligence gathering was achieved through targeted inspections carried out by five field Operations Directorate (FOD) regions during 2004. Inspectors followed an inspection protocol and checklist developed independently by the Employment Medical Advisory Service (EMAS) to obtain information regarding management arrangements for MSDs, activities with WRULD risk factors, and incidence of WRULDs amongst workers performing tasks identified as having a WRULD risk.

## MAIN FINDINGS

- Inspection results broadly fitted the findings of a 2003 pilot study carried in the East & South East & London region
- Management of MSDs, and WRULDs, is generally poor, particularly risk assessment
- Print finishing tasks were the greatest contributor to WRULD risks and symptoms
- Little evidence of under-reporting was collected by inspectors during Site inspections
- From the data collected during site inspections, WRULDs appear to be less prevalent in the printing industry than in reference data taken from other industries

It is recommended that, because of the relatively low prevalence of WRULDs, this topic could be given a reduced priority within HSE's printing sector.

# 1 INTRODUCTION

## 1.1 BACKGROUND

Work Related Upper Limb Disorders (WRULDs) are conditions that affect the muscles, tendons, ligaments, nerves, or other soft tissues and joints associated with the neck, shoulders, arms, wrists, hands, and fingers.

WRULDs can be thought of as musculoskeletal disorders (MSDs) of the upper limbs that are commonly associated with high repetition, forceful actions, awkward postures, alongside impacts and transmitted vibration from tools and work equipment. Hand-arm Vibration Syndrome (HAVS) and the compression of the median nerve that gives rise to Carpal Tunnel Syndrome (CTS) are specific examples of WRULDs.

Whilst MSDs are commonly associated with heavy and awkward manual handling and poor working postures, WRULDs are more closely associated with intensive upper limb use i.e. repetitive production work and intensive Display Screen Equipment (DSE) use.

Many tasks in the printing industry are performed manually, often where sheets of paper need to be loaded from pallets to printing or print finishing equipment and then manually palletised or packed once the process is complete. Case studies of manual handling problems and the associated risk of MSDs in printing, alongside practicable solutions can be seen on the HSE website at <http://www.hse.gov.uk/printing/manual/index.htm>.

These types of tasks also exhibit features that are risk factors for WRULDs, such as repetitive pinch gripping to lift and position stacks of paper, striking paper with the heel of the hand, and gripping paper in non-neutral wrist postures.

There is a lack of RIDDOR data available for collection for WRULDs in the printing industry. Indeed, RIDDOR data for MSDs in the printing industry is scarce and inconclusive, and the sparse data available points towards the manually intensive tasks in the printing process, such as printer loading and guillotine operation, as key agents of injury. This lack of reported cases of WRULDs is not because they do not occur within the printing industry, rather an indication that under-reporting of WRULDs may be significant. This may be accentuated by complexities in the RIDDOR reporting system (WRULDs may be classified in RIDDOR as occupational disease rather than injury). The implication of this is that either WRULD cases are wrongly reported or that there is no reporting at all. The Printing Industry Advisory Committee (PIAC) also suspected that under reporting of ill health within the industry was a problem. Secondly, the level of awareness of WRULDs amongst the workforce may be poor and should an employee suffer the symptoms of a WRULD, they might be less likely to report or seek medical/managerial intervention as they might with a more 'clear cut' manual handling related injury such as a back injury.

An earlier study undertaken in 2002/2003 by a FOD Occupational Health Specialist in the East, South East, & London region highlighted the importance of addressing WRULD risks to HSE's Printing Sector. This study revealed low employer and employee awareness of WRULDs, and a subsequent lack of risk assessment for risks that were observed to be present in 31 of the 47 small companies visited. In this sample, the number of WRULD cases taken from the accident book was relatively low (3 cases), and WRULD control measures were largely limited to task rotation.

Although the data available from this study showed that there have been cases of WRULDs in printing companies, the true prevalence of WRULDs in the industry is still not well understood.

## **1.2 AIMS**

The aim of the project was to gather further intelligence about WRULDs within the printing industry to address HSE's existing knowledge gap. This included gathering intelligence about the level of awareness of WRULDs, the types of tasks that contributed to WRULD cases, common sites of trouble, and measures in place to control WRULD risk.

## **2 SURVEY METHODOLOGY**

### **2.1 CHECKLIST DESIGN**

The inspection checklist used in this project was developed by the HSE project team from the checklist used in the 2002/2003 study. This checklist contained items concerning:

- The company's general details and main activities
- Management awareness of WRULDs, alongside MSDs.
- Health & safety arrangements, such as where health and safety advice was obtained
- Risk assessments performed for WRULDs and MSDs
- WRULD injuries/ill health recorded in the accident book
- Training and information provided to staff
- Tasks considered to have a WRULD risk
- WRULD control measures in place
- Employee awareness and experience of WRULDs

The checklist for this study was extended to include items from the HSG60 risk filter (see HSG60 Upper Limb Disorders in the Workplace) and a section on WRULD control measures also taken from HSG60. A WRULD symptoms checklist was added to assess employee's understanding and experience of WRULDs alongside the sites of their symptoms. A copy of the final checklist is included as Appendix 1.

### **2.2 PROCEDURE**

The criteria the Inspectors used to select companies to visit with the assistance of Workplace Contact Officers (WCO's) were:

- Having either a Standard Industrial Classification (SICR) code of 22230 (bookbinding and finishing) or 22220 (other printing),
- Employing between 6 and 30 employees, who hadn't been visited within the last three years.

During Site inspections the visiting inspector spoke to the duty holder about the background information relating to MSDs, WRULDs, and manual handling. The inspection checklist (Annex A) was used as an aide-memoire and to record information during the visit. The inspector then identified tasks that were considered to have a risk of WRULDs and noted the risk factors and any control measures in place. The workers performing the tasks were then questioned about WRULD symptoms. Photographs were taken as necessary of novel interventions or specific problem areas. All responses were collected from employees of the printing firms visited. Completed checklists and additional material were sent to HSL Ergonomics Section for collation and analysis.

## 3 SURVEY RESULTS

### 3.1 CHECKLIST SECTIONS A-D

Results are presented as a count and a percentage (%) of the total 120 companies visited unless otherwise stated.

#### 3.1.1 Section A: FOCUS Details

- 42 (35%) of the companies visited had no details about previous HSE visits. One company was last visited in 1988; the majority of the remaining companies were visited in the late 1990s or within the last 5 years.
- 96 companies visited (80%) had received no previous MSD advice from earlier inspections. Of the remaining 24 companies, 12 (10%) had received advice, 12 (10%) were non-responses
- 103 (86%) companies had received no previous MSD enforcement with the remaining 14% being non-responses. This indicates that there was no enforcement on MSD at any company visited prior to the survey visit

#### 3.1.2 Section B: Main Activities of Duty Holder

The mean number of employees in a company visited was 21 (Standard Deviation (SD) 13.8), with the smallest company employing 3 people and the largest company employing 62 people. Of the three available categories on the checklist, printing and print finishing employed the greatest number of people, with a mean of six people in printing (SD 5.1) and six in finishing (SD 7.7). Pre-press activities employed a mean of three people per company (SD 2.5). 100 (83%) companies print onto sheet paper, 32 (27%) print onto reels, 15 (13%) print onto other materials, such a bottles or signs. As indicated by the percentage figures, a few companies print both sheet and reeled paper, and a handful of companies print sheet or reeled paper alongside other materials.

#### 3.1.3 Section C: Background Information

Eleven companies (9% of total) operated a piecework or incentive scheme. This was often in the form of bonuses for achieving productivity targets rather than a production piecework system. Paid overtime was also considered as an incentive scheme when processing the results.

#### 3.1.4 Section D: Awareness

- 79 (66%) of duty holders questioned were aware that MSD related to manual handling
- 61 (51%) duty holders were aware that MSD related to WRULD
- 40 (33%) duty holders were aware of HSE's *Printers Guide*

## **3.2 CHECKLIST SECTIONS E-H**

### **3.2.1 Section E: Health & Safety Arrangements**

- 24 (20%) of companies had a written policy relating to MSD
- 34 (28%) companies used external consultants for safety advice, followed by the BPIF (22, 18%) and internal H&S officers (13, 11%). 8 companies (7%) had no supplier of safety advice
- 40 (33%) of duty holders used their GP for health advice, followed by external consultants (16, 13%) and the BPIF (15, 13%). 29 companies (24%) had no supplier of health advice

### **3.2.2 Section F: Risk Assessment**

- 54 (45%) of duty holders had carried out a risk assessment for MH
- 16 (13%) had carried out a risk assessment for WRULD
- 31 (26%) of these assessments had been carried out in-house, with consultants carrying out 17% of the assessments. The inspection checklist did not differentiate between risk assessments carried for manual handling and WRULD assessments

Few of the risk assessments observed included all five of the checklist criteria based on HSE's *Five Steps To Risk Assessment* guidance:

1. Persons exposed
2. Existing controls
3. Additional controls
4. Responsible person
5. Completion date / renewal date

This has implications upon the quality of H&S consultant input for producing adequate risk assessments

### **3.2.3 Section G: Accident / Ill Health Statistics / RIDDOR**

- 110 (92%) companies had an accident book
- In the last two years, the mean, median, and modal average number of manual handling-related and WRULD injuries (including reportable injuries) from the 120 companies visited was 0. One company recorded 12 manual handling-related injuries, otherwise incidence of manual handling-related or WRULD injury was low, with some companies recording 1-2 injuries per year of which 1 might be reportable.
- 33 (27%) of duty holders questioned their workforce about health in relation to MSD. There was no differentiation on the checklist between formal and informal questioning, so all positive responses were included
- 48 (40%) have a reporting system for MSD related ill-health
- 63 (52%) have a system for investigating accidents and ill-health
- 64 (53%) companies include identifying remedial action in their investigating system
- 48 (40%) companies' investigating systems are routinely carried out. Some companies stated that their system had not been used to date because of a lack of accidents and ill-health
- 46 (38%) companies record work-related ill health in the accident book. Where ill-health not recorded in the accident book, records were usually not kept, with exceptions being records kept in personnel files
- 82 (68%) companies are aware of RIDDOR

- However, a smaller number (65, 54% of total) understand the main reporting requirements of the RIDDOR
- A minority of 13 companies (11%) showed evidence of under-reporting of MSD related ill health

### 3.2.4 Section H: Training and Information

- 45 (37.5%) companies provided manual handling training for staff
- Where provided, 65% of the training was done by an in-house trainer, followed by 11% provided by a consultant
- 38 (31%) companies provided manual handling training at induction
- However, of these companies only 9 (20%) repeated the training
- 27 (60%) companies who provided manual handling training included a session relevant to the workers roles, which might include training on the shop floor or at the workstation
- 16 companies (36% of those who provided training) kept records of the training provided/received
- 14 (12%) companies out of the 120 visited provided employees with information on WRULDs, most commonly in the form of a leaflet (50% of 'yes' responses)
- 3 companies (3%) out of 120 provided training for agency staff, 56 (47%) did not. 51 companies (43%) did not employ any agency staff

### 3.3 CHECKLIST SECTION I: ACTIVITIES WHERE THERE IS A RISK OF WRULDS

Out of a potential 360 tasks (3 tasks per company) 280 tasks were identified. Table 1 shows that of these tasks, visiting inspectors selected finishing tasks over any other area of the printing process as having the highest risk of WRULD.

Activity	Percentage	Number
Pre press	7%	19
Printing	21%	59
Finishing	60%	169
Packing	7%	20
Other	5%	13
N=280 respondents		

**Table 1.** Activities within the printing process where a risk of WRULD was identified by the visiting inspector. 'Other' includes Goods Inward activities

The WRULD risk factors taken from HSG60 are shown below in Table 2.

WRULD Risk Factor	Percentage Prevalence n=280
Repeating the same motions every few seconds	51%
REPETITION – Repetitive elements for more than 2 hours total / shift	
A sequence of movements repeated >2× per minute	60%
>50% of the cycle time involved in performing the same sequence of motions	67%
WORKING POSTURES – Awkward postures for more than 2 hours total / shift	
Large range of joint movement	34%
Awkward or extreme joint positions	31%

Joints held in fixed positions	27%
Stretching to reach items/controls	39%
Twisting or rotating items/controls	30%
Working overhead	3%
<b>FORCE – Forces applied, sustained, or repeated for more than 2 hours total / shift</b>	
Pushing, pulling, moving things (including fingers & thumbs)	55%
Grasping / gripping	68%
Pinch grips with thumb & finger	51%
Steadying or supporting items / work pieces	37%
Shock / impact transmitted to body from tools / equipment	9%
Objects creating localised pressure on any part of the upper limb	11%
Do workers regularly use any powered hand-held or hand-guided tools or equipment or do they hand feed work pieces to vibrating equipment?	5%

**Table 2.** *Percentage prevalence of WRULD risk factors as listed on the inspection checklist*

Table 2 shows that the most prevalent risk factors were related to repetitious work, grasping and gripping, stretching to reach items of controls, and awkward working postures. Overhead working, shock or impact transmitted to the body from tools or equipment, and contact with vibrating tools or equipment showed a low prevalence.

### 3.4 CHECKLIST SECTION J: WRULD CONTROL MEASURES

This section of the checklist showed a very poor response rate, with many inspectors choosing to omit the section completely. The few responses available show that exposure related controls and psychosocial factors were more frequently noted as control measures than workstation and job design. Control measures recorded included job rotation, breaks, job enlargement, reducing monotony, ensuring reasonable workload and deadlines, and ensuring good lines of communication and reporting.

### 3.5 CHECKLIST SECTION K: EMPLOYEE AWARENESS SYMPTOMS

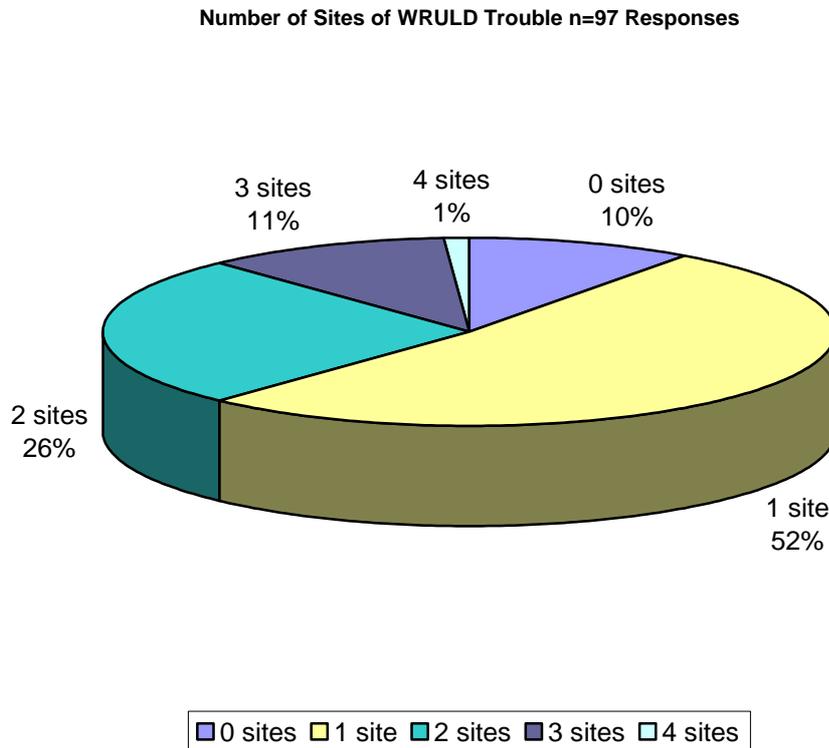
- Out of 284 yes or no responses, 129 (45%) people questioned understood what WRULD was
- From 274 yes or no responses, 57 (21%) workers had experienced an ULD injury

Table 3 shows that, of the four body areas identified as sites of WRULD trouble the wrists / hands were the most common with nearly 90% prevalence amongst workers who had experienced a WRULD injury. The second most prevalent site of trouble was the shoulder(s) with nearly 75% prevalence in the affected group, followed by the neck and elbow(s).

Site	Number	Percentage Prevalence (n=57)
Neck	32	56
Shoulder(s)	42	74
Elbow(s)	12	21
Wrist/Hand(s)	51	89

**Table 3.** *Distribution of WRULD symptoms between the four sites identified on the checklist, for workers who indicated that they had experienced a WRULD injury*

Table 3 indicates that WRULD trouble was often distributed across more than one site. This distribution can be seen in Graph 1.



**Graph 1.** Pie chart to show the number of body sites of WRULD trouble reported

The data for Graph 1 was taken from 97 responses on the symptoms questionnaire where individuals stated ‘yes’ to having experienced WRULD or listed a site of WRULD trouble. Graph 1 shows that the majority of respondents only identified trouble in one of the four available sites. Only 1 individual had experienced trouble in all four body sites. Some individuals answered ‘yes’ to understanding what WRULD was and to having experienced symptoms, but then did not give the site of the trouble.

- 39 (14%) of 274 respondents had received information/ training on WRULD
- 220 (79%) individuals knew who to report a case of WRULD to
- 37 (13%) of workstations showed evidence of modification / improvement, taken to suggest that the workstation was contributing to discomfort or WRULD injury

### 3.6 CHECKLIST SECTION L: ENFORCEMENT

Two site inspections resulted in the issue of improvement notices for inadequate control of WRULD risks. These were the most severe enforcement action taken across the 120 companies visited.

The most prevalent HSE enforcement action taken was verbal advice, which was often given alongside an instant visit report (IVR) or a letter detailing problems.

### 3.7 PREVALENCE OF WRULD COMPARED TO SAMPLE DATA

The WRULD symptoms data collected from the 274 printing industry workers can be compared with other reference data for WRULD prevalence. The Nordic reference data gathered using the Nordic Musculoskeletal Questionnaire (NMQ) is from a large sample of over 7569 workers

(Foundation for Occupational and Environmental Medical Research and Development, Orebro, 1985/86/87), and represents average occupational prevalence of MSD.

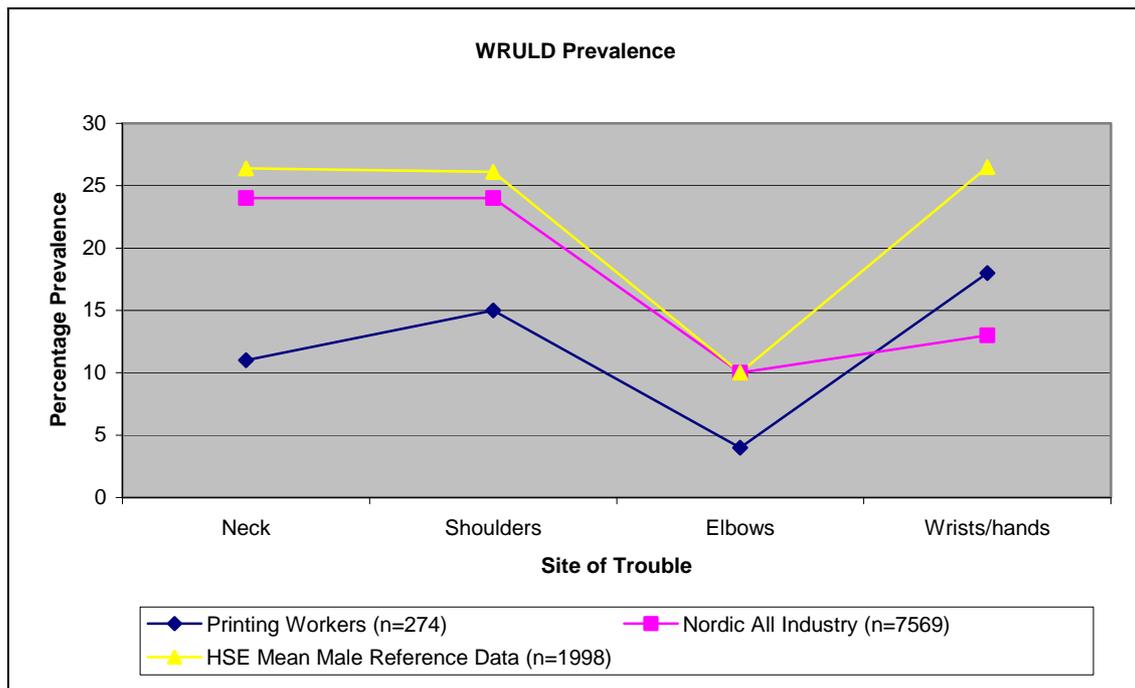
The HSE reference data (Dickinson 1994) is based on a range of HSE studies using the NMQ in an adapted format on 1998 male workers in 9 different work settings. The HSE Musculoskeletal Symptoms Questionnaire uses a three-month prevalence; - symptoms experienced in the last three months, to indicate annual prevalence.

The prevalence of WRULD trouble by site of symptoms for the study sample of 274 workers is shown in Table 4

Body Site	Percentage Prevalence in relation to study sample n=274
Neck	11
Shoulder	15
Elbow	4
Wrist	18

**Table 4.** Prevalence of WRULD symptoms by body site within the entire sample of responses

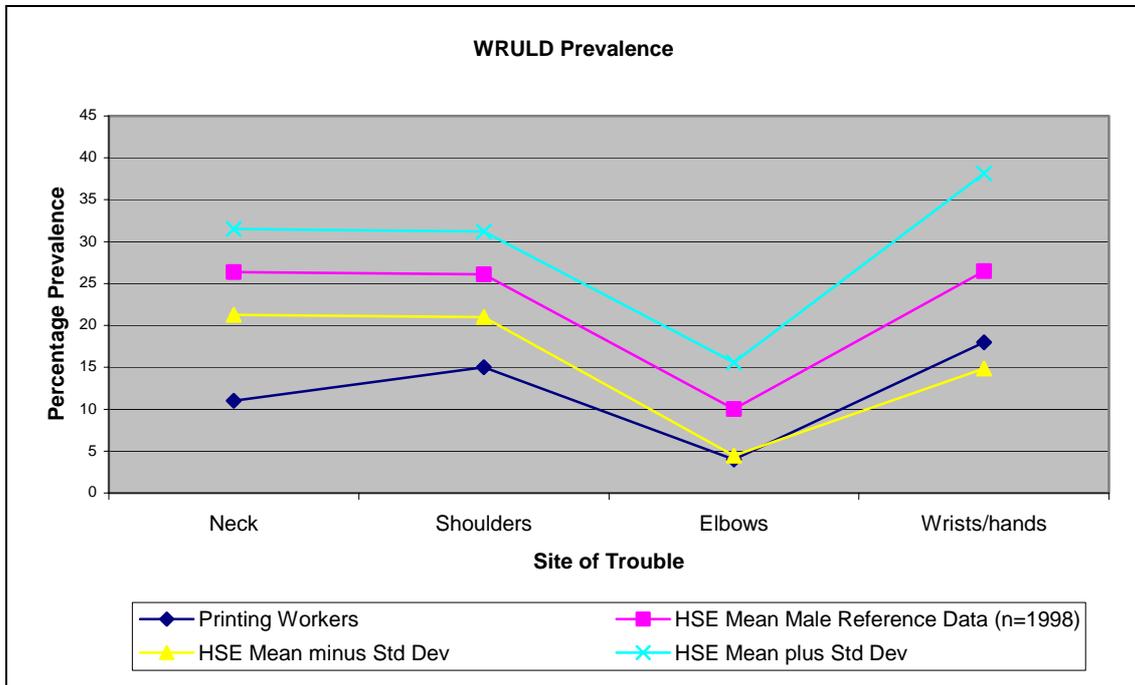
Graph 2 shows this data in comparison with the Nordic and HSE reference data.



**Graph 2.** WRULD prevalence by site of trouble from printing industry workers, and Nordic & HSE reference data

Graph 2 shows that the percentage prevalence for neck, shoulder and elbow trouble in printing workers is lower than both the Nordic and HSE reference data. The prevalence of wrist/hand trouble is greater than the Nordic prevalence, but less prevalent than in the HSE data. The printing data pattern closely matches that of the HSE data, suggesting that printing work is not associated with outstanding WRULD prevalence in any particular body area.

The HSE reference data shown in Graph 2 is a mean average. The printing data was re-plotted alongside the HSE data, but with the upper and lower ranges of the HSE data included. This can be seen in Graph 3.



**Graph 3.** *WRULD prevalence in printing workers by site of trouble in comparison with HSE reference data with upper and lower ranges plotted*

Graph 3 shows that the printing WRULD prevalence is generally below the lower prevalence (Mean minus SD) data from the HSE sample, with the exception being wrist/hand trouble, which was 2-3% higher than the lower prevalence data but nearly 10% lower than the mean data.

## 4 DISCUSSION

As anticipated, the greatest proportion of tasks considered to possess WRULD risk factors were in print finishing. This can be explained by the requirement to grip and handle paper when performing tasks such as machinery loading and unloading, gathering, and manually 'fanning' stacks of paper prior to insertion into folding machinery, in comparison to other stages of the printing process where stacks of paper are often handled mechanically, such as press loading and unloading.

Because inspectors selected tasks that they considered to have greater risks of WRULDs, the study sample is biased in that it may be expected that the workers performing the higher-risk tasks would show a greater than normal prevalence of symptoms when compared with the HSE and Nordic reference data. However, the printing industry sample generally showed a lower prevalence of WRULD symptoms than the reference data, particularly the HSE reference data. Therefore, for the printing industry as a whole it may be considered that the inspection data revealed a 'worst case' scenario for WRULD prevalence that is comparably lower than other industries.

The pattern of results from this survey shows close similarities, where comparable, with the earlier study 2002/2003. This supports the findings of this study in that knowledge and risk assessment of WRULDs is generally poor, and prevalence of WRULD symptoms is low in spite of apparent risk factors in manual printing process tasks.

Little evidence of non-reporting or under reporting occupational accidents and ill health was found during site inspections, which suggests that reporting issues cannot explain the low prevalence of WRULDs in the study sample. Similarly, the understanding of what a WRULD is was relatively good amongst the workers performing tasks considered by the visiting inspector to possess WRULD risk factors, which suggests that lack of awareness of risks is also an unlikely reason for low prevalence.

In many industries where manual tasks are performed a 'healthy worker effect' is present, where the workers performing the tasks have not experienced any work-related ill health and are able to continue performing where others workers have left because of the task demands. This effect, in conjunction with younger employees whose exposure to the task is not yet sufficient to cause ill-health might result in a low apparent WRULD prevalence in tasks that would otherwise be considered to possess some risk. Further research would be needed into worker demographics to determine whether this effect is present in the printing industry.

The most commonly identified risk control measure was task rotation, either formal or informal in smaller companies as jobs on certain machines finished and the work moved on to another stage of the printing or finishing process. This organisational control measure, which is often recommended as a 'no-cost' solution to MSD/WRULD problems, may have a sufficient limiting effect upon exposure to more risky tasks to control the prevalence of WRULD in the study sample.

A key criticism of the inspection questionnaire for WRULDs is that it made no mention of timescale, merely asking, "has [the employee] had a WRULD injury". In contrast, the NMQ and HSEMSSQ ask for WRULD symptoms within the last 3 / 12 months. The data gathered, therefore, could be from WRULD symptoms that are current or long-passed. However, by not asking about a timescale, it may be expected that a higher prevalence would be observed, though this was not the case. In this respect, the WRULD prevalence data is again, a 'worst case scenario' as it covers such a potentially broad timescale.

## 5 CONCLUSION

This study provides useful intelligence into WRULDs and MSDs in the printing industry that was not previously known. The results confirm anecdotal evidence that print finishing is the process area with the greatest need for manual handling and WRULD control measures. Also the lack of effective risk assessment for manual handling and WRULDs is a shortcoming in most of the companies visited, even though health and safety advice and risk assessments were obtained from consultants in many cases.

The most important finding in relation to WRULDs is that prevalence is low in comparison to reference data derived from general industrial samples, without evidence of under reporting and in a sample exposed to 'risky' tasks. This has an important impact upon HSE's activities within the printing sector, as the findings of this project suggest that attention can be directed towards other more pressing health and safety topics, such as occupational dermatitis or workplace transport.

## 6 REFERENCES

Dickinson, C.E., (1994) Musculoskeletal symptoms reporting: A review of HSE surveys using the Nordic Musculoskeletal Questionnaire. HSE Internal Report.

HSE (1998) Musculoskeletal Disorders in Supermarket Cashiers. HSE Books

Health and Safety Executive (2002) Upper Limb Disorders in the Workplace HS G60 (rev). HSE Books

## 7 APPENDICES

### 7.1 APPENDIX 1. INSPECTION CHECKLIST

<b>Client Name:</b>		<b>Visit Date:</b>	
<b>Client Address:</b>		<b>Client No:</b>	
		<b>Location No:</b>	
		<b>Inspector's Name:</b>	
<b>Section A: FOCUS DETAILS</b>			
Date of last visit: ___/___/___ No previous visit			
Previous advice for MSD (give brief details):			
Previous enforcement for MSD (give brief details):			
<b>Section B: MAIN ACTIVITIES OF DUTY HOLDER</b>			
		Indicate the print material:	
Prepress (design)	No. of employees	Paper sheets	Yes No
Printing		Reels of paper	Yes No
Finishing		Other objects (e.g. bottles):	_____
Other			
	Total =		
<b>Section C: BACKGROUND INFORMATION</b>			
Working hours	Breaks	Piecework/incentive schemes	Yes No
		Comments:	
<b>Section D: AWARENESS</b>			
What does the duty holder think MSD covers?			
The duty holder mentioned: Manual handling WRULD			
Other:			
Are they aware of the Printers' Guide? Yes No			
<b>Section E: HEALTH &amp; SAFETY ARRANGEMENTS</b>			
Is there a policy relating to MSD? Yes No			
Where does the duty holder obtain advice on safety issues:			
Internal H&S officer External consultant Other: _____			
Where does the duty holder obtain advice on health issues?			
Internal OHS External OHS consultant GP Other: _____			
<b>Section F: RISK ASSESSMENT</b>			
Have assessments been carried out for activities with a risk of:			
Manual Handling Yes No WRULD Yes No			
If Yes, were the assessments carried out: In-house Consultant			
Other: _____			
View a copy of the assessments. Do they cover: very poor standard of assessment			
Who is exposed? Yes No			
Existing control measures? Yes No			
Additional control measures required? Yes No			
Person responsible for actioning these? Yes No			
A completion date for actions? Yes No			
<b>Section G: ACCIDENT / ILL HEALTH STATISTICS / RIDDOR</b>			
Is there an accident book Yes No			

<b>Section G: ACCIDENT / ILL HEALTH STATISTICS / RIDDOR</b>			
	<b>Work-related injuries only.</b>	Manual handling	Upper limb disorder
From the accident book:	No. MSD injuries in last 2 years		
Estimate:	No. that were reportable		
Determine from employer:	No. other MSD cases in last 2 years (Med. certificates & absences)		
	No. that were actually reported		
Estimate	No. that were reportable		
Does the duty holder ask employees about their health in relation to MSD? Yes No			
Does the duty holder have a system for employees to report symptoms of MSD? Yes No			
Is there a system for investigating accidents and ill health? Yes No			
Does it include identifying remedial action? Yes No			
Is this routinely carried out? Yes No Ad hoc			
Does the printing company record work-related ill-health episodes in the accident book? Yes No If no, Where? _____			
Has the printing company heard of RIDDOR and the legal requirement to report certain work related accidents? Yes No			
Does the company understand the main reporting requirements under RIDDOR? Yes No			
Is there evidence of reportable cases not being reported? Yes No			

<b>Section H: TRAINING AND INFORMATION</b>	
Has manual handling training been provided? Yes No	
If yes, was this: In-house Consultant Other Specify: _____	
Is the training carried out at induction? Yes No	
How often is the training repeated? _____	Not repeated
Does it include a practical session relevant to workers' roles? Yes No	
Are records kept of MH training? Yes No	
Has information been provided on WRULD? Yes No	
If yes, in what format: leaflet video verbal poster other Specify: _____	
Do agency staff (where used) receive manual handling training & information on WRULD? Yes No	

**ACTIVITIES WHERE THERE IS A RISK OF WRULDs.** Within the overall process, from 'Goods In' to 'Goods Out', identify the 3 activities with the highest risks of WRULDs (Activity 1 = highest, Activity 2 = next highest, Activity 3 = 3rd highest).

<b>Section I: WRULD RISKS</b>	<b>Activity 1</b>	<b>Activity 2</b>	<b>Activity 3</b>
<b>Brief description of activities</b>	<b>Hand folding</b>	<b>Loading print machine</b>	<b>Use of guillotine</b>
Are there any repetitive elements for more than 2 hours total/shift: Repeating the same motions every few seconds? A sequence of movements repeated >2X / minute? >50% of the cycle time involved in performing the same sequence of motions?	Yes No Yes No Yes No	Yes No Yes No Yes No	Yes No Yes No Yes No
Are there any awkward working postures for more			

than 2 hours total/shift, such as: Large range of joint movement (side to side or up & down)? Awkward or extreme joint positions? Joints held in fixed positions? Stretching to reach items/controls? Twisting or rotating items/controls? Working overhead?	Yes No Yes No Yes No Yes No Yes No Yes No	Yes No Yes No Yes No Yes No Yes No Yes No	Yes No Yes No Yes No Yes No Yes No Yes No
Are there any forces applied, sustained or repeated for more than 2 hours total/shift such as: Pushing, pulling, moving things (including fingers & thumbs)? Grasping / gripping? Pinch grips with thumb & finger? Steadying or supporting items/work pieces? Shock / impact transmitted to body from tools / equipment? Objects creating localised pressure on any part of the upper limb?	Yes No Yes No Yes No Yes No Yes No Yes No	Yes No Yes No Yes No Yes No Yes No Yes No	Yes No Yes No Yes No Yes No Yes No Yes No
Do workers regularly use any powered hand-held or hand-guided tools or equipment or do they hand-feed work pieces to vibrating equipment?	Yes No	Yes No	Yes No
Any other risk factors you wish to mention?			
What are the reasons for your deciding that these are the 3 highest risk activities, and for ranking them in this order?			
<b>Section J: WRULD CONTROL MEASURES</b>	<b>Activity 1</b>	<b>Activity 2</b>	<b>Activity 3</b>
Repetition/duration, e.g.: • Mechanisation/automation • Removal of machine/other pacing • Restructuring the task (job design) • Removal/monitoring of piecework • Job enlargement • Adequate breaks • Job rotation			
Force, e.g.: • Reduction of forces necessary • Use of power tools • Use of jigs/counterbalances • Reduction of weight of items • Presenting items differently • Ensuring tools are suitable & maintained • Improving handles			
Posture, e.g.: • Automation/mechanisation • Modifications to production method • Relocating equipment/items • Reducing manipulation – using fixtures/jigs • Accounting for differences in worker shape, size & strength • Ensuring items are within reach • Suitable/adjustable seating • Suitable tools/controls			
Working environment, e.g.: • Alternative processes • Reducing vibration & exposure to vibration • Avoiding working in cold environments • Provision of information/training			
Psychosocial factors, e.g.: • Reducing monotony • Ensuring reasonable workload and deadlines • Ensuring good lines of communication & reporting			
Individual factors, e.g.: • Allowing a gradual build up to full production speed • Provision of training • Seeking OH advice on special requirements/adjustments			

Describe & photograph any other activities where good or novel control measures have been implemented.

<b>Section K WRULDS: Employee Awareness Symptoms</b>	<b>Activity 1</b>	<b>Activity 2</b>	<b>Activity 3</b>
(Speak to at least 1 employee in each area identified; complete each box with the number of employees answering yes/no)			
Job title(s)			
Do the employees understand what WRULD is?	Y N	Y N	Y N
Have they had a WRULD injury?	Y N	Y N	Y N
If so, have they had ache, pain, discomfort or numbness in:			
Neck	Y N	Y N	Y N
Shoulder(s)	Y N	Y N	Y N
Elbow(s)	Y N	Y N	Y N
Wrist/hand(s)	Y N	Y N	Y N
Have they had any information/training on WRULDS?	Y N	Y N	Y N
Do they know who they should report to if they get a WRULD?	Y N	Y N	Y N
Any evidence of improvisations to tools/work equipment?	Y N	Y N	Y N

<b>Section L: ENFORCEMENT</b> Only complete this section once for each inspection. Tick the relevant box					
Breach identified	Verbal advice	Written advice		Notice or prosecution	Reason duty holder gives for breach e.g. lack of time/money
		IVR	Letter		
No written assessment for MSDs.					
Risk assessments are available, but are inadequate					
WRULD risks are not being adequately controlled					
Training/information has not been provided					
Failure to report under RIDDOR					