

LEAFLET 52**WORK RELATED UPPER LIMB DISORDER****CONTENTS****Para****LEAFLET FOR LINE MANAGERS**

- 1 Legislation
- 3 Definitions
- Duties
- 4 Line managers
- 5 Employees
- 6 Information
- 7 Records
- 9 Associated leaflets

Annex

- A Guidance for Line Managers
- B Basic check list
- C A checklist for the identification and reduction of Work Related Upper Limb Disorders
- D A Protocol for Line Managers

LEAFLET FOR LINE MANAGERS**LEGISLATION**

1 In addition to the general employers duties under the Health and Safety at Work etc Act 1974, employers should be aware of their specific duties under the following Regulations with respect to Work Related Upper Limb Disorders (WRULDs):

- 1.1 The Management of Health and Safety at Work Regulations 1999;
- 1.2 The Display Screen Equipment Regulations 1992;
- 1.3 The Manual Handling Operations Regulations 1992;
- 1.4 The Workplace (Health, Safety and Welfare) Regulations 1992;
- 1.5 Provision and use of Work Equipment Regulations 1998.

2 This leaflet is intended as a guide to managers in identifying hazards that may cause Work Related Upper Limb Disorder (WRULD) injuries to their staff.

DEFINITIONS

3 Line Manager means all MOD staff, both Service and Civilian, who have authority and responsibility for directing and supervising people working for them. The working staff may be either permanent or temporary MOD employed staff, or persons employed on MOD contracts.

DUTIES**Line Managers**

4 Line Managers are required to:

- 4.1 Identify hazards, that could give rise to WRULD to their staff
- 4.2 Carry out a suitable and sufficient risk assessment of any such process.
- 4.3 Implement measures necessary to reduce the risk.
- 4.4 Where a risk of developing WRULD has been identified staff are to be informed how they can minimise these effects.
- 4.5 Ensure staff are suitably trained in any new procedures which are introduced.

Employees

- 5 Employees are required to:
 - 5.1 Inform their line manager of any limb disorder they believe could be caused by their work.
 - 5.2 Follow any procedures introduced to reduce the risk to their health.

INFORMATION

6 Information is at Annex A to this leaflet will help to increase Line Managers understanding of WRULD conditions, and at Annexes B, C and D practical help in achieving this duty to prevent WRULD is provided.

RECORDS

- 7 Records should be kept of the risk assessments.
- 8 Records of the training and information supplied to staff must be kept.

ASSOCIATED LEAFLETS

- 9 The following leaflets maybe useful
 - Manual Handling
 - Risk Assessment
 - Display Screen Equipment
 - Purchase and Safe use of Work Equipment
 - Retention of Records

LEAFLET 52 ANNEX A**WORK RELATED UPPER LIMB DISORDER****GUIDANCE FOR LINE MANAGERS****INTRODUCTION**

1 This Annex gives information on the group of conditions known as Work Related Upper Limb Disorders (WRULDs). It includes general advice on how the conditions might be recognised, reported and prevented, but not detailed and specific guidance. Managers are responsible for taking whatever action they deem appropriate as dictated by compliance with legislation and the specific circumstances of their workplace.

2 It is MOD policy to minimise the effects of WRULD among its employees through recognition of the hazard, appropriate risk assessment, action to reduce or if possible eliminate the risk, and to inform and train employees who might be at risk about what actions they should take if they develop symptoms suggestive of WRULD.

WHAT ARE WRULDs?

3 The term Work Related Upper Limb Disorder incorporates a vast range of different conditions and specific diagnoses affecting the "soft tissues" of the upper limb, especially muscles, ligaments and tendons; some are recognised and understood by medical authorities while others are less well defined and understood. Tennis and golfers elbow, carpal tunnel syndrome, tenosynovitis and frozen shoulder are typical conditions, which may be considered as WRULDs. Despite a close association with work, upper limb disorders may also arise through other endeavours such as sport, hobbies or other domestic activities.

4 The single most important feature of WRULD is that the symptoms produced are related in some way to the work performed by the individual. Repetitive activities, high work load and piece-rate working are often implicated and may be exacerbated by poor ergonomic conditions of the work station or task.

5 WRULDs are considered of economic importance as they are responsible for considerable sickness absence among any workforce and may give rise to poor productivity of those who remain at work. Secondly, they form the basis of many claims for industrial injury against employers. Thirdly, WRULDs may also result in long term disability and its associated human costs and social implications. It is therefore of paramount importance to recognise and take appropriate action to minimise the impact of WRULDs.

SYMPTOMS

6 Discomfort and pain brought on by specific activity are the principal symptoms. Numbness and tingling, swelling and inflammation may also be reported. Occasionally, weakness of the muscles may also be experienced. The forearms and wrists are the most commonly affected but the elbows, shoulders and neck may also be the site of symptoms.

RISK FACTORS

7 There are a number of recognised risk factors, which, if present, may give rise to WRULDs. They include:

7.1 Continued repetitive movements such as twisting, squeezing, hammering, pushing and pulling;

7.2 Keyboard work;

- 7.3 Use of excessive force;
- 7.4 Awkward posture;
- 7.5 Poor ergonomics of workstation, tools or equipment;
- 7.6 High work rate at high risk tasks.

LEGAL DUTIES

8 In addition to the general duties of employers under the Health and Safety at Work etc Act 1974, employers should also be aware of their responsibilities under the following Regulations with respect to WRULDs:

- 8.1 The Management of Health and Safety at Work Regulations 1999;
- 8.2 The Display Screen Equipment Regulations 1992;
- 8.3 The Manual Handling Operations Regulations 1992;
- 8.4 The Workplace (Health, Safety and Welfare) Regulations 1992;
- 8.5 Provision and Use of Work Equipment Regulations 1998.

9 In general terms employers have a duty to recognise that a hazard might exist in the workplace and ensure that a risk assessment is conducted. Subsequent actions by employers must aim to reduce the risk so far as is reasonably practicable. In addition employers are obliged to inform the workforce of the risks of developing WRULDs and how they can be minimised. Suitable training must also be provided.

RISK ASSESSMENT

10 To determine if WRULDs are likely to be encountered managers should complete the initial check list given at Leaflet 52 Annex B. If any answer is "Yes" then a more detailed investigation such as described in Leaflet 52 Annex C is required. In addition, managers should consider reviewing sickness absence data for their section. This may reveal problems associated with upper limbs and may help identify a process, workstation or procedure that may be responsible. A review of accidents and injuries may also highlight an association of the upper limb and a work process or procedure, especially those involving strains and sprains of the wrists and forearms. Similarly, back injuries may highlight problems associated with manual handling. An analysis of claims activity may also indicate that a problem exists and that appropriate measures should be taken to reduce the risk.

11 A review of Quality Control in manufacturing processes may also be of value in identifying the potential for WRULDs to be affecting work.

REDUCING THE RISK

12 Having identified that a potential problem exists, or that there is a real problem in the workplace, managers should take steps to eliminate the risk so far as is reasonably practicable but, in any case, reduce the risk to as low a level as is reasonably practicable. General actions that might be taken should be aimed at the particular risk factors associated with the task. Solutions need not be expensive or complicated. Ensuring that appropriate tools of an adequate design are being used, that the work station is arranged in an efficient manner and that repetitive actions and movements that cause strain are minimised offer low cost methods of risk reduction.

13 Altering work rates and rotating workers between high and low risk activities during a shift or work period should be considered together with a review of the length and frequency of permitted breaks.

14 Consultation with the individual worker and the supervisor, together with appropriate expert advice from engineers, ergonomists, H&S professionals and health care professionals may also be fruitful in identifying possible solutions.

15 Where symptoms develop which suggest that WRULD may be occurring, the employee should be stood down from the activity which may be giving rise to the symptoms. There is clear evidence that early recognition and rest from the causative activity significantly reduces the long term effects, damage to soft tissues and possibly long term disability. Early involvement of the occupational health adviser to the workplace should be the norm.

DUTY TO INFORM

16 It is occasionally the case that the risk of causing WRULDs cannot be entirely removed from a work activity. Under these circumstances managers have a duty to inform employees that a risk exists, how employees might recognise that they are being affected and what action the manager requires them to take. The need to provide adequate advice under these circumstances has been established in law and cannot be avoided.

17 Managers are encouraged to develop a protocol for employees and supervisors which sets out the actions to be taken when an employee reports work related symptoms. The aim of the protocol should be to minimise the impact of WRULD on the individual and the Department. A template is at Leaflet - Annex D.

REPORTING

18 If advised by a medical practitioner, WRULDs can be reportable ill-health conditions under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995.

19 All incidents where WRULDs are identified should be reported internally within MOD on MF 2000 in accordance with JSP 442.

ADVICE

20 Specialist advice should be sought from occupational health specialists and H&S advisers through the normal chain of command. In addition advice may be obtained through the local Health & Safety Executive office.

21 A range of publications on WRULD is available through HSE books.

LEAFLET 52 ANNEX B**WORK RELATED UPPER LIMB DISORDER****BASIC CHECK LIST**

- 1 Does the job involve: FREQUENT/FORCEFUL/AWKWARD tasks such as:
 - 1.1 Gripping (a tool or workpiece) YES/NO
 - 1.2 Squeezing (tool handles) YES/NO
 - 1.3 Twisting actions YES/NO
 - 1.4 Reaching/stretching YES/NO
 - 1.5 Pushing/pulling YES/NO
 - 1.6 Lifting YES/NO
 - 1.7 Finger/hand movements (e.g. keyboard) YES/NO
- 2 Is there evidence of WRULDs at the worksite?
 - 2.1 Actual cases of WRULDS YES/NO
 - 2.2 Complaints by workers of symptoms of WRULDs YES/NO
 - 2.3 Sickness absence for possible WRULD symptoms YES/NO
 - 2.4 Are there homemade/improvised modifications to tools or workstations YES/NO
- 3 If there are any YES answers to the above questions there is a possible risk of WRULDs in your workplace.
- 4 You must undertake a more comprehensive workplace assessment to identify workers at risk and workstations that create risk and then take appropriate actions to protect the workers (see Annex A).
- 5 In the case of Pushing/Pulling/Lifting this will lead to a more comprehensive Manual Handling assessment, which should consider WRULD as a risk.
- 6 If keyboards are involved this may form a DSE workstation that would require a more detailed assessment.

LEAFLET 52 ANNEX C**WORK RELATED UPPER LIMB DISORDER****CONTENTS**

Para

	A CHECKLIST FOR THE IDENTIFICATION AND REDUCTION OF WORK RELATED UPPER LIMB DISORDERS
1	Introduction
6	Organisational factors
	Task and equipment design factors
11	Applied forces
14	Movements
17	Postural factors
21	Duration of effort
23	Tool and equipment factors
	Tool and equipment design principles
55	Personal and anthropometric factors
59	Environmental factors

A CHECKLIST FOR THE IDENTIFICATION AND REDUCTION OF WORK RELATED UPPER LIMB DISORDERS**INTRODUCTION**

1 A great deal of useful and effective advice and guidance on the prevention of WRULD is given in HSE Guidance Note HS(G)60, "Work Related Upper Limb Disorders: A Guide to Prevention", which is available from HSE Books. The checklist given below has been extracted from that given in Appendix 2 of HS(G)60.

2 This list of questions is intended to assist in identifying the more evident factors that may cause ULDs. It covers the main interacting factors that need to be considered. In applying these notes several questions need to be addressed, before those especially pertinent to ULDs are asked. These will help to establish the context within which the problems may be arising.

3 The physical and mental loads on the operator are part of the broad task description, including the levels of motivation, alertness and powers of concentration that the operator applies to his/her task. A description of the environment can help to pinpoint unusually extreme task demands (e.g. work in a cold store) and the extent of training can affect the levels of skill and dexterity that the operator applies to the task.

4 There are also jobs and conditions that are particularly unpleasant, where motivation and performance may be lowered because the operator has poor job satisfaction.

5 The questions cover four main areas.

- 5.1 Organisational factors
- 5.2 Task and equipment factors
- 5.3 Personal and anthropometric factors
- 5.4 Environmental factors

ORGANISATIONAL FACTORS

- 6 Is the training that the operators receive detailed and long enough to ensure that by the time they reach full working rates and loads, they have sufficient skills and strength?
- 7 Is the work generally organised so that there are long periods without breaks, or is the same task done all day, every day or with compulsory overtime?
- 8 Are management activities creating problems that could be regarded as stressful for employees?
- 9 Are changes in the work made without constructive collaboration from the operators?
- 10 Are bonus systems creating the need for operators to exceed good working practices?

TASK AND EQUIPMENT DESIGN FACTORS**Applied forces**

- 11 Is it likely that excessive force is being used by the operator?
- 12 Do any of the operations involve static muscle loads?
- 13 Are forces applied with the arm joints at or near the extremes of their range of movement?

Movements

- 14 Are the same movements repeated frequently?
- 15 Are the movements rapid in their execution?
- 16 Are any of the following movements present?
 - 16.1 Forcefully twisting the wrist as in wringing out clothes?
 - 16.2 Rotation of the wrist, particularly when it is bent?
 - 16.3 Movement of the wrist from side to side?
 - 16.4 Highly flexed fingers and wrist?
 - 16.5 Hand or arm motions beyond a comfortable range?

Postural factors

- 17 Are the arms raised high or outstretched at the shoulder?
- 18 Is the forearm held at an angle higher than the horizontal?
- 19 Is the upper arm held away from the vertical?
- 20 Do poor overall postures exist from other factors, e.g. bad seating, over-large equipment, etc?

Duration of effort

- 21 Are tasks performed for long periods without relief?
- 22 Are short bursts of energetic work included in longer periods of activity?

Tool and equipment factors

- 23 Are women using tools designed for men?
- 24 Do the tools vibrate, without having a vibration absorbing grip?
- 25 Do the tools impose shock loading upon the user?
- 26 Do tools need to be held firmly to resist reaction torques when operated?
- 27 Do the tools have a jerky action?
- 28 Is considerable pressure required to hold or operate the tool?
- 29 Are the handles:
 - 29.1 Too large in diameter to be gripped easily?
 - 29.2 Too small in diameter to be gripped easily?
 - 29.3 Too short to extend across the width of the palm?
 - 29.4 Excessively shaped, preventing good contact?
 - 29.5 Relying upon the hand grip to oppose motion along the length of the handle?
 - 29.6 Excessively slippery during the course of work?
- 30 How are the controls of the tool operated?
- 31 Are the tools traditional or domestic in design, e.g. scissors?
- 32 Have the tools been modified by the operators or are improvised tools in use?
- 33 Do operators have to twist and turn to reach frequently needed items?
- 34 Do operators wear gloves and, if so, do they affect grip or manual dexterity?

Tool and equipment design principles**NOTE**

While giving a general guide, these principles need to be interpreted carefully as, if applied inappropriately, they can cause further problems.

- 35 Avoid sharp edges on any equipment or fixtures that come into contact with the body.
- 36 Keep repetitive reaching as close as possible to the body and always within 450 mm of the front of the operator.
- 37 Tilt the work surface and fixtures towards the operator, particularly those above the elbow height of the individual.
- 38 Avoid a pinch grip and use a power grip whenever possible (the pinch grip, i.e. gripping forcefully between thumb and forefinger, is 5 times more stressful than the power grip) where most of the palm of the hand and fingers can clasp the object.
- 39 Minimise hand force requirements.

- 40 Provide workstation height adjustability whenever possible.
- 41 Avoid repetitive pounding with the palm of the hand.
- 42 Avoid flexing the wrist (toward or away from the palm) more than about 15 degrees while performing hand activities.
- 43 Avoid bending the wrist more than about 5 degrees toward the thumb or 15 degrees toward the little finger while performing hand activities.
- 44 Avoid raising the elbow above chest height.
- 45 Avoid reaching below seat or waist level.
- 46 Avoid reaching behind the centre-line of the body.
- 47 Avoid repetitively rotating the hand and forearm by more than about 90 degrees.
- 48 Design repetitively pushed control buttons to be a nominal 75 mm in diameter and avoid button guards with sharp edges.
- 49 Provide adequate spacing between repetitively accessed buttons (nominal 50 mm clearance) in multiple control situations.
- 50 Provide padded body support surfaces when awkward body postures must be maintained for extended periods.
- 51 Avoid exposure to cold ambient temperatures or to local cold air sources such as exhaust from a powered tool.
- 52 If gloves must be worn, provide adequate sizes to fit all workers' hands.
- 53 Avoid equipment and/or tools that transmit vibration to the hands.
- 54 Design or select handles, tools or parts of machinery that must be grasped according to the following ergonomic criteria:
 - 54.1 The nominal diameter of single handles should be approximately 40 mm;
 - 54.2 If the hand must span 2 handles, the span should be between 50 and 75 mm;
 - 54.3 The handle should be made of some material other than metal, as metal has a tendency to be cold;
 - 54.4 The handle material should be soft, compliant and textured rather than hard and smooth;
 - 54.5 The handle should be oriented to prevent excessive wrist bending and torque;
 - 54.6 For vertically oriented handles, provide a lower support surface to prevent the handle from sliding out of the hand;
 - 54.7 Tools and surfaces that contact the hand should be thick or long enough so that forces are not concentrated in the centre of the palm.

PERSONAL AND ANTHROPOMETRIC FACTORS

- 55 Do operators suffer from anxiety because of emotional problems at home or at work?

56 Have operators been advised regarding out of work activities that might exacerbate potential work-related problems? Are they fatigued from:

56.1 Domestic or hobby activities?

56.2 Other jobs?

57 Are operators at either extreme of the range of heights of the working population?

58 Have adequate steps been taken to adapt workplace conditions to suit employees whose body strengths are at the extremes of the range of strength across the working population?

ENVIRONMENTAL FACTORS

59 Are levels of noise sufficient to cause mental stress or interfere with communications or safety?

60 Does music impose rhythmic patterns that are inappropriate for the task?

61 Are lighting levels causing operators to adopt awkward postures to avoid shadows or to see properly?

62 Are flickering lights causing stress to operators?

63 Is the air temperature avoidably low at any time of the year?

64 Is protective clothing issued because of the environment constraining posture or do gloves affect grip?

65 Is poor environment a source of discontent among operators?

66 Are there chemicals in the air that might be affecting the operators' co-ordination or muscular system?

LEAFLET 52 ANNEX D**WORK RELATED UPPER LIMB DISORDER****A PROTOCOL FOR LINE MANAGERS**

- 1 Is there a workplace assessment of WRULD risk? YES/NO
ACTION: If NO - conduct workplace assessment.
- 2 Risk identified? YES/NO
ACTION: If YES - take action to reduce the risk to as low a level as is reasonably practicable and to meet the statutory requirements.
- 3 Risk still present? YES/NO
ACTION: If YES - inform and advise employees of risks and responsibilities.
- 4 Worker reports WRULD.
ACTION:
 1. Temporarily remove worker from process/procedure and refer to occupational health department.
 2. Re-assess workplace and take appropriate action.
- 5 Worker takes sickness absence for possible WRULD.
ACTION:
 1. Employee re-assessed by occupational health department for fitness for task on return to work.
 2. Line manager re-assesses task. Consider additional methods of risk reduction.
- 6 Periodic review of accident/injury occurrences, WRULD implicated? YES/NO
ACTION: If YES - re-assess workplace for risk.