

Managing Work-Related Upper Limb Disorders

Minimising injuries and maximising business benefits



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Introduction



Jon Abbott

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For over ten years Cardinus Risk Management has been supplying DSE/ergonomics safety solutions to many of the worlds' largest organisations. During this time we have helped our customers comply with regional and national regulations (such as the Display Screen Equipment regulations), reduce injuries and improve productivity.

This report comprises a collection of articles that we feel may have special interest for Health & Safety professionals seeking to deliver results from their ergonomics program.

It will help the reader to view personal injury claims through the eyes of the legal profession and provide some different perspectives relating to how safety can be 'marketed' to management and employees.

In particular, I hope that this document will provide some 'ammunition' for those seeking budget approval for safety/ergonomics programmes.

I would like to thank the contributors for their help in producing this report.

If you have any questions or comments please do not hesitate to contact me.

Jon Abbott
Director
Cardinus Risk Management

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About the author



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Barry Holt is the Director of Policy & Research at the International Institute of Risk and Safety Management. He has over 30 years' experience in providing environment, health and safety consulting services and training to a wide range of commercial, industrial and public organisations. Barry has worked in most European countries, the Middle East, USA and Far East. Prior to joining Cardinus in Jan 2009 he was regional director, Europe with the National Safety Council, USA and a senior consultant in the business risk practice at Willis and principle consultant at Norwich Union Risk Services.

He is also involved in the academic field, being a visiting lecturer in health and safety and risk management on MSc programs at University College, London and formerly at Imperial College, London. For four years he was external examiner on the postgraduate programs in the Centre for Hazard and Risk Management, University of Loughborough. Barry was a member of the project board for a three-year government-funded research project to identify key factors influencing risk perception in construction projects. This was carried out by University College, London and the University of Manchester Business School.

His clients have included major blue chip organisations, particularly in the engineering, chemical, petroleum, food and drink, pharmaceutical and mining industries including Royal Mail Group, Shire Pharmaceuticals, Siemens, Phillip Morris, Kraft Foods, Kuwait Petroleum Corporation, ILO, BP Chemicals and Eastern Petrochemicals (Saudi Arabia). He has written numerous articles in journals and has contributed to two books on risk management in construction projects. He has also spoken at many events including the NSC Congress and a UN Environment Program conference at the Royal Society in London.

He has a BSc (Eng) in Metallurgy from Imperial College, London and is an Associate of the Royal School of Mines, a Chartered Member of the Institution of Occupational Safety and Health and a Member of the International Institute of Risk and Safety Management. Barry was formerly a director of the Institute of Risk Management and was its chief examiner in risk analysis and chairman of their examinations committee.

Background

The office environment has traditionally been viewed as relatively free from serious hazards. We are aware of the potential for slips, trips and falls but the hazards associated with production activities are perceived as being absent. However, with the majority of office based staff now using display screen equipment, the rapid increase in home-working and the use of lap-tops, office workers have found themselves subject to Work-Related Upper Limb Disorders (WRULDs).

WRULDs form a category of musculoskeletal conditions that affect the soft tissue in the arms, wrists, hands, shoulders and upper back. They include the class of injury that was formerly known as Repetitive Strain Injury (in the US, Cumulative Trauma Disorder). In legal and medical terms this term is now rarely used in the UK because it does not relate to a specific condition and, conversely, it is not sufficiently broad to encompass conditions that result from other causes such as poor posture.

While repetitive motion is still a major cause of work-related upper limb disorders, many result from poor posture when working. Hence, when we are trying to manage the risk, it is essential that we consider all aspects of the task and the working environment, as well as those factors that the individual brings to the equation. We must also be aware of the indirect effects of poor ergonomic practices and design, such as the stress produced on the worker, which in turn contributes to a significant degree to lost work time.



Work-related upper limb disorders

There is no rigid definition of WRULDS but the term encompasses conditions that have certain characteristics. The term is normally used to describe such conditions as:

- Disorders of muscles, nerves, tendons, ligaments, joints, cartilage or the spinal column
- Conditions that are not caused by a single, instantaneous or acute incident but are the result of longer term or chronic exposure to a causal event
- Disorders which can range in severity from mild or occasional discomfort to severe, continuous and potentially disabling conditions
- Conditions which may display several distinct features such as carpal tunnel syndrome which causes discomfort throughout the hand, arm and shoulder
- Conditions that are defined by a specific body location such as lower back pain

Common examples of WRULDS include the following specific conditions:

- Carpal tunnel syndrome
- Tenosynovitis
- Tendonitis
- Epicondylitis
- Vibration white finger
- Bursitis
- Lower back pain

1. Carpal tunnel syndrome

This results from repeated hand or finger movements when the wrist is bent. The tendons that transmit motion from the fingers, through the wrist to the arms pass through the carpal ligament or 'tunnel' along with the median nerve.

If the wrist is flexed, this will result in friction at the carpal tunnel leading to inflammation and pain.

2. Tenosynovitis

This is inflammation of the fluid filled sheath (synovium) which surrounds the tendons and can result from friction between the tendon and the sheath. This can be caused by repetitive motion when the joint is flexed. In the hand, this can cause the finger to stick in a flexed position; this is known as stenosing tenosynovitis or "trigger finger".

Tenosynovitis can be treated by use of cortisone injections followed by a course of painkillers. Surgery can be carried out to increase the diameter of the sheath and lessen the risk of friction. This will require splinting of the hand for at least a week.

3. Tendonitis

This is inflammation of the tendon itself caused by overuse or injury. It can affect tendons in the shoulder, elbow, wrist, finger, knee or heel and causes severe pain in the affected areas. In the case of those tendons that are enclosed in a synovium, both tendonitis and tenosynovitis can occur at the same time.

Tendonitis is not confined to work-related causes but can result from other activities such as sport. Treatment is mainly palliative and includes application of ice packs supported by rest or non-steroidal anti-inflammatory drugs such as ibuprofen.

4. Epicondylitis

This condition, commonly known as 'tennis elbow' or 'golfers' elbow', is caused by over use of the muscles in the lower arm which are attached to the elbow. These muscles, the wrist extensors, allow the hand to be pulled backward. Symptoms include the outer part of the elbow being painful and tender to the touch and lifting movements being painful.

Treatment is similar to that for tendonitis.

5. Vibration white finger

Also more correctly known as Hand-arm vibration syndrome or Raynaud's disease, this condition results from excessive use of vibrating hand-held machinery. This affects the blood vessels, nerves, muscles and joints of the hand and wrist, producing blanching and numbness in the fingers. In mild cases this affects only the finger tips but in more severe case the whole finger down to the knuckles can become white with associated loss of feeling. This can result in loss of manual dexterity, particularly in colder weather, and in extreme cases can require the loss of a finger.

6. Bursitis

This condition is the inflammation of the sacs of synovial fluid, bursae, which provide lubrication at points in the body, such as elbows and knees where muscles or tendons pass over bone. This results in pain and difficulty in moving the joints where the bursa is inflamed. The most common causes are repetitive motion and excessive pressure, mainly of the elbow or knee, 'housemaid's knee'.

Normally the treatment is palliative and includes ice compresses and anti-inflammatory drugs.

7. Lower back pain

This is experienced as pain between the bottom of the rib cage and the top of the legs.

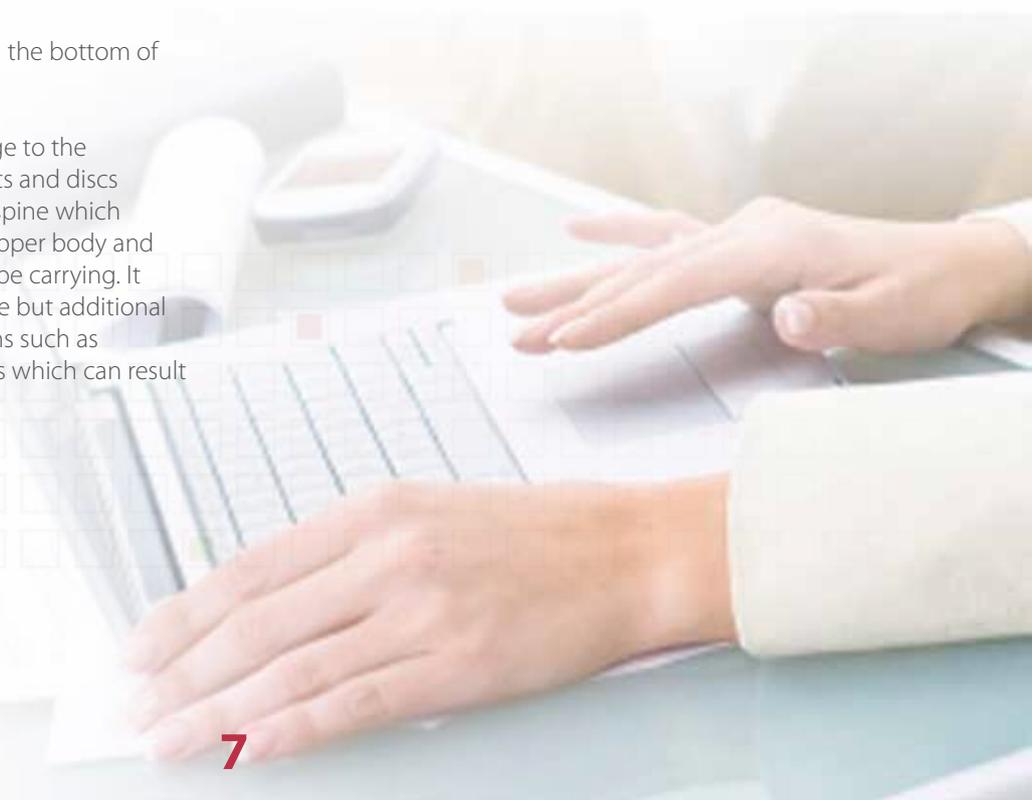
Lower back pain results from damage to the vertebrae, nerves, muscles, ligaments and discs in the L1 – L5 lumbar region of the spine which supports the whole weight of the upper body and any additional load which you may be carrying. It is, therefore, under constant pressure but additional stress will be created through actions such as bending, twisting or lifting. Activities which can result in lower back pain include:

- Bending awkwardly
- Manual handling of loads
- Poor posture when seated
- Over stretching
- Poor driving posture
- Driving with insufficient breaks

The pain will normally last from a few days to a few weeks but will then heal itself, given suitable exercise. For normal acute cases treatment would consist of painkillers such as paracetamol or an NSAID (Non-Steroidal Anti-Inflammatory Drugs) such as ibuprofen. In very severe acute cases a muscle relaxant such as diazepam may help. However this can have unwanted side effects. Chronic cases of lower back pain can be treated in similar ways but physiotherapy may be recommended and surgery may be appropriate in specific cases, e.g. fusion to treat a prolapsed disc.

A common feature of all these work-related upper limb disorders is that they can be caused by the need to carry out a task involving movement of loads and/or repetitive actions. As a result the people most commonly affected fall into two groups:

- Manual workers whose work involves repetitive actions
- Workers operating at computer workstations



Legal requirements relating to WRULDs

HSE expects organisations to carry out a suitable and sufficient risk assessment for stress, and to take action to tackle any problems identified by that risk assessment. In order to help, the HSE has developed a set of Management Standards. The Management Standards approach is guidance intended to help and encourage organisations to manage the mental health of employees – specifically stress – and to show what they have done.

The need for employers to manage the risks of work-related upper limb disorders effectively has implications for their duties under statute law, in discharging their civil law duty of care toward their employees, and minimising the likelihood of any claims for compensations.

1. Statute law

Under the Health and Safety at Work etc. Act 1974, employers have a general duty of care to ensure, so far as is reasonably practicable, the health, safety and welfare of their employees.

In addition, individual directors and managers have a specific duty toward their staff.

In the event of a failure to discharge the employer's duty of care, enforcement action can be taken, including the issue of improvement and prohibition notices and prosecution. Action in the magistrates' court can lead to a maximum fine of £20,000 or up to 6 months' imprisonment. In particularly serious cases, the magistrate can refer the case to the Crown Court where there is the possibility of an unlimited fine or up to 2 years in prison. In the case of action relating to WRULDs this is most likely to be dealt with in the magistrates' court.

In 1992, the UK Government introduced the Health & Safety (Display Screen Equipment) Regulations covering display screen equipment, the activities that are most closely associated with WRULDs. These sets of regulations implemented the EU Directives on Display Screen Equipment.

The regulations require an employer to demonstrate that they are controlling the risk to their employees by:

- Identifying all potential sources of injury – hazards
- Evaluating the likelihood and potential severity of a potential incident to assess the

acceptability of the risk

- Implementing control measures, based of the level of risk
- Providing information, instruction and training on the hazards that have been identified and the control measures which have been implemented
- Ensuring that the assessment is reviewed at appropriate intervals and up-dated where appropriate

In addition to the possibility of a prosecution and resulting penalties, where there is a failure to comply with the Regulations, the enforcing authorities can issue an 'Improvement Notice'. This states what improvements are needed to bring the controls to an acceptable standard and gives a time limit for implementation. Alternatively, for a serious breach, a 'Prohibition Notice' can be issued requiring that the task stop until the improvements have been put in place. Failure to comply with either form of notice can result in prosecution.

There is an indirect financial impact from the various forms of enforcement action besides the direct impact of a fine. There is the cost of improvement, which must be carried out immediately, and the potential loss of output from a prohibition notice. These costs, both direct and indirect are not covered by Employers' Liability insurance.

2. Civil Law

Under UK civil (or common) law, an employee who is injured through the negligence of the employer may sue for compensation.

The common law duty of care requires that employers take reasonable care to protect their employees from the risks of foreseeable injury.

To prove negligence the injured person must demonstrate the following:

- The employer owed a 'duty of care' to the injured person (almost always in the case of an employer/employee relationship)
- The employer did not discharge the duty of care
- The injury was a direct result of the failure to discharge the duty of care

Alternatively, failure to comply with the requirements of the DSE Regulations can be used as evidence of negligence. (Note: the HASAW Act and the Management of Health & Safety at Work Regulations cannot be cited in this way owing to their more general nature)

Civil law does acknowledge that the employee has a duty to comply with standards and procedures that the employer has put in place. If this is not the case the court can rule that the employee was wholly or partially responsible for the injury and reduce the compensation accordingly (Contributory negligence).

Any damages which the court may award will take into account the following factors:

- Any loss of earning including future earnings
- The cost of any modifications to the claimant's lifestyle needs, e.g. modifications to the home where mobility is affected
- A figure to compensate for pain and suffering

Unlike the financial penalties under statute law, which cannot be insured, Employers' Liability insurance, which is a compulsory form of insurance, will cover the cost of the compensation as well as the legal costs associated with the action.

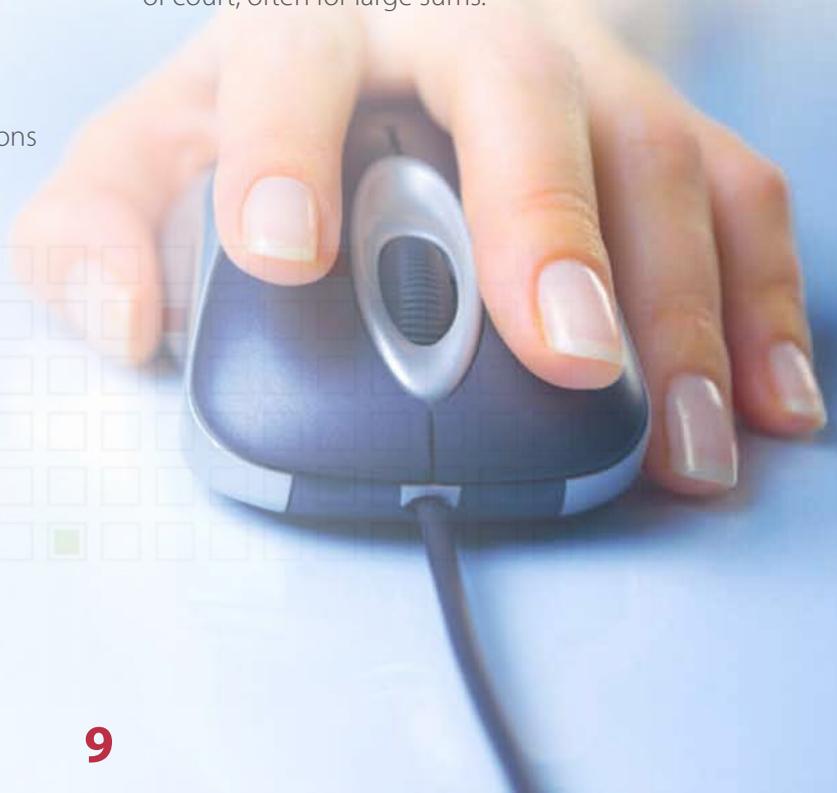
In addition to the compensation that may be awarded by the courts, benefits under the Industrial Injuries Benefits Scheme can be paid out of the social security system. These payments do not require the claimant to establish 'fault'.

There have been attempts to amend the system for injury compensation by moving away from the negligence based approach and moving further toward a 'no fault' system. Progress in this direction has been very slow.

The judgments given in civil law and the awards are based on a body of case law which has been built up over a period of time. This is based on a system of custom and precedent. Most of the important cases that form the basis of precedent for claims involving WRULDs occurred in the 1990s but are still regarded as valid.

For a precedent to be overturned or amended a case must go to a higher court such as the Court of Appeal, the House of Lords or the European Court. If the higher court reaches a different judgment, this then becomes the basis for precedent until changed by a higher court.

In reality, the majority of cases which relate to WRULDs do not reach court and are settled out of court, often for large sums.



Case law relating to WRULDs

One of the problems that the courts have faced in dealing with cases relating to WRULDs is that many of the early cases were based not on clearly diagnosed conditions, such as carpal tunnel syndrome but on more nebulous conditions such as diffuse WRULDs or Repetitive Strain Injury (RSI). In a well publicised case, *Mughal v Reuters*, 1993, Judge Jon Prosser reportedly stated that the alleged medical condition, (RSI), did not exist and “had no place in the medical textbook” and went further to state that keyboard operators who were forced to quit their jobs due to aching muscles or joints were “eggshell personalities who needed to get a grip on themselves”.

This judgment caused much argument and was thought by some experts to be anomalous and as such would not set a precedent. There have been very few successful cases where the claim has not been based on a specific medical condition.

As mentioned earlier many of the key cases occurred in the early 1990s but it is worth reviewing these as they still form a cornerstone of the legal precedent.

1. *Ping v Esselte-Letraset* (1992)

This case involved nine employees at the Ashford, Kent printing works of the defendant who all developed WRULDs including tenosynovitis, epicondylitis and trigger thumb (stenosing tendonitis). They had been employed in a range of general duties involving repetitive movements, which, they claimed had led to the injuries. The judgment of the court was that:

- The injuries had resulted from their work activities
- The injuries had been foreseeable by the employer
- There was a duty of care owed by the employer to the employees
- To comply with that the employees should have been warned about the hazardous nature of the work before they had begun
- They should have been instructed to notify their employer of any wrist or arm pain immediately and had the reasons explained
- There should be an on-going process of education and training relating to the risks
- In the absence of these procedures, the court found that the employer was liable

2. *McSherry and Others v British Telecom* (1993)

Damages of £6,000 were awarded to two BT employees who alleged that they had been injured as a result of working at high speed on keyboards whilst provided with inappropriate furniture. BT appealed against the judgment but the appeal was abandoned when the case was settled out of court.

As the appeal was lodged but then abandoned this case does not rank as a legal precedent but is of interest as the first case of its kind where the claim related to furniture.



3. Mitchell v Atco (1995)

The plaintiff, who was a motor tester with the defendant, claimed compensation when diagnosed as suffering from a WRULD. Her tasks had involved significant levels of lifting, turning and twisting. Although she had also been examined by the employer's medical adviser, the court ruled that:

- The evidence of the plaintiff's doctors should take precedence over that of the company's medical adviser
- The defendant had been aware that the tasks carried a foreseeable risk of injury
- No information or advice had been given to the plaintiff relating to the risks and consequences of her activities
- The company had no system of job rotation so that the plaintiff was working excessive lengths of time on these tasks
- The court awarded compensation of £42,600 based on £27,500 for loss of earning, £6,600 for loss of future earning and £8,500 for pain and suffering

4. Hunter v Clyde Shaw plc (1995)

The plaintiff was diagnosed as suffering from lateral epicondylitis (tennis elbow) which, it was alleged, was a result of his work as a radiographer at the defendant's factory. This work involved regular moving of castings on a turntable. The casting weighed up to 5 tonnes and the plaintiff and other employees had repeatedly complained about the nature of the work.

The court in Scotland ruled that the defendant had been negligent and had not taken reasonable steps to prevent the foreseeable injury by providing appropriate equipment.

5. Pickford v ICI (1996)

This was the first case where the Court of Appeal actually decided the outcome. The claimant had developed 'writer's cramp' as a result of her secretarial activities. The Court of Appeal ruled that the claimant could recover damages from the employer on the grounds that:

- They had failed to supervise her work activities adequately
- They had provided no information, instruction or training with regard to work on display screen equipment

In addition to those cases that have gone to court, where compensation has been awarded, there are many cases that have been settled out of court. As an indication of the possible scale of settlements, some out of court awards are discussed here:

- Two typists at the Inland Revenue were awarded £82,500 and £79,000 respectively
- A giro processing machine operator at the Benefits Agency was awarded £38,000
- A council chainsaw operator was awarded £60,000 compensation
- Two supermarket check-out operators each gained settlements in excess of £30,000.
- A night editor at the Guardian newspaper was awarded £37,500 in compensation as a result of the work patterns which were required

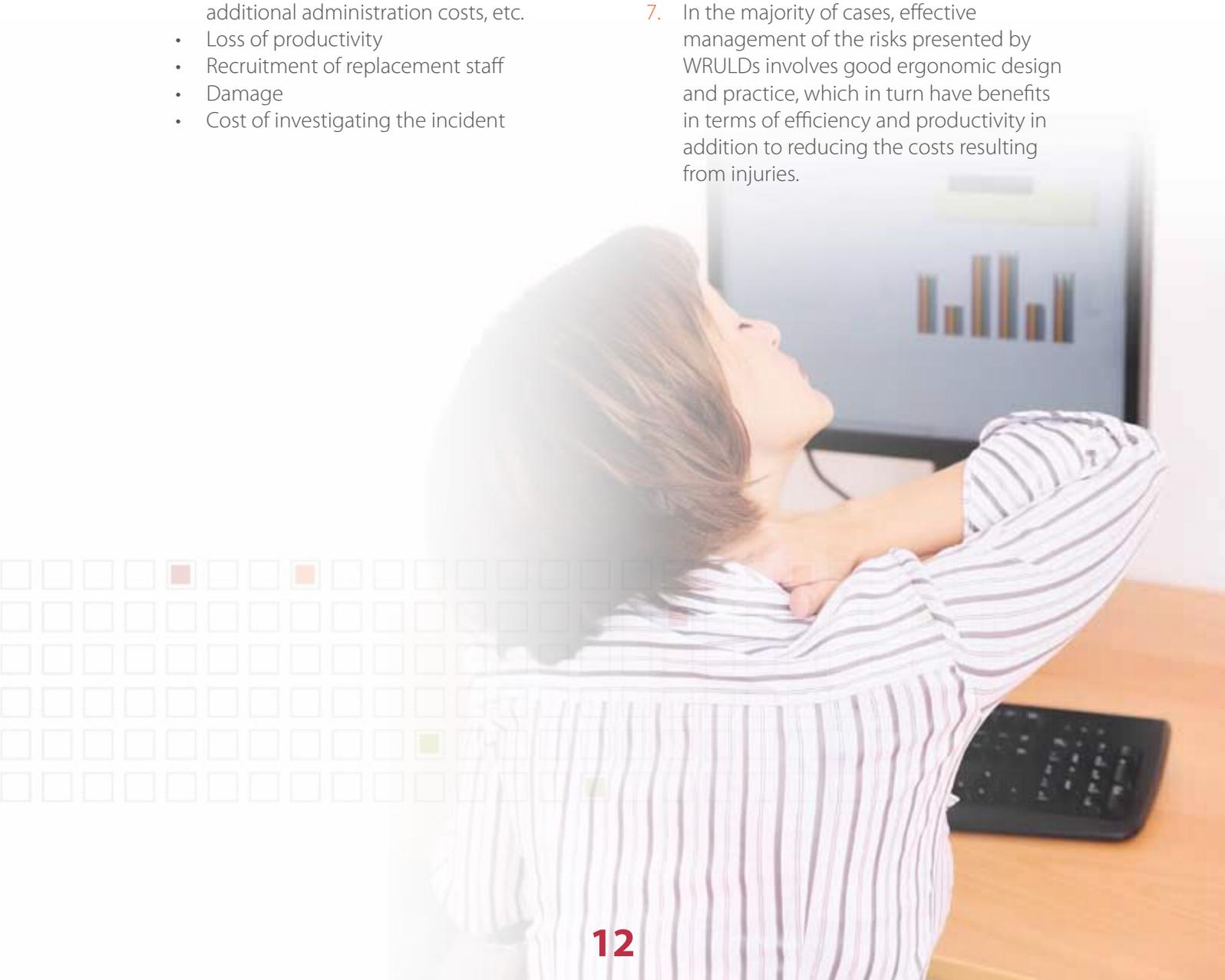
As was mentioned above there is also the possibility of 'no fault' compensation under the Industrial Injuries Benefit Scheme administered through the social security system. However, in the case of WRULDs the awards of compensation have been very rare and not of any significant amount. To qualify for an award under the scheme the claimant has to be suffering from a specific 'prescribed' industrial disease.

The Industrial Injuries Advisory Council carried out reviews of a wide range of WRULDs but found that some of them, e.g. rotator cuff syndrome, a shoulder injury, showed insufficient epidemiological evidence to recommend their prescription. However, others, including carpal tunnel syndrome, have been prescribed where workplace exposure can be proved.



The cost of WRULDs to the business

1. In 1993 the Health and Safety Executive published a report, 'The Costs of Accidents at Work' in which it presented the findings of studies which were carried out in a range of industries, to establish the true costs of accidents at work. This looked not only at the insured costs, such as compensation awards, but also the costs to the business that are not covered by Employers' Liability insurance. Some of these, such as fines and the consequences of enforcement notices, have been discussed earlier but there are many other costs which need to be considered when assessing the impact on the business of not managing risks such as WRULDs.
2. Examples of 'hidden' costs of injuries include:
 - Costs resulting from the employee's absence from work, e.g. sick pay, additional administration costs, etc.
 - Loss of productivity
 - Recruitment of replacement staff
 - Damage
 - Cost of investigating the incident
3. The HSE report concluded that the hidden cost of accidents ranged from 8x to 36x the insured cost.
4. Subsequently similar studies have been carried out including one by the author, for a client. These studies have regularly reproduced the 8x multiplier although the higher figures have not been duplicated.
5. However, if we can establish the true costs of injuries resulting from WRULDs we can usually present a business case as well as a moral and legal case for managing the risks effectively.
6. It must be borne in mind, that if we can reliably establish the true cost of injuries, these costs directly affect the profitability of the business.
7. In the majority of cases, effective management of the risks presented by WRULDs involves good ergonomic design and practice, which in turn have benefits in terms of efficiency and productivity in addition to reducing the costs resulting from injuries.



How do we manage the risks and minimise costs?

If we review the judgments in the cases which have set the legal precedents we can see certain key factors which have influenced the judgment;

- Lack of appropriate procedures
- Failure to provide the employees with information, instruction and training
- Inadequate supervision

When looking at how we are to manage the risks whatever system we adopt needs to ensure that these elements are incorporated. It is not adequate to simply carry out a risk assessment; this must be a part of a wider system.

1. We have seen that the impact on the business of failing to manage the exposure of employees to WRULDs can be as significant as the impact on the employees themselves. In other words, what is good for the employees is also good for the business. Therefore, employers have a moral, financial and legal incentive to implement robust systems of control.
2. It should also be borne in mind that in the case of health and safety legislation, in the event of a prosecution it is the responsibility of the defendant to demonstrate that they have done what is reasonably practicable; it is not the responsibility of the enforcement authorities to prove that the employer has failed to do this.
3. This means that not only is it necessary to have the right systems in place but it is essential that the employer can demonstrate that the systems are being correctly and consistently implemented and that they are appropriate for the risks to the employees.

4. When assessing the risk of injuries from WRULDs it is essential to be aware of where the hazards can arise. This means that the process must address:

- Task related hazards
- Work equipment
- Work environment
- Characteristics of the individual

5. This means that there is a need to address the activities of each individual who is using display screen equipment. In view of the volume of work which this would require, there is a very strong case for using an on-line system at their regular workplace.

6. To facilitate this the individual employees should be involved in their own risk assessments. By doing this not only do we get a clearer picture of how they are working but it helps them to take ownership of the need to work in a correct way.

7. However, there will be cases where actions resulting from the assessment cannot be implemented by the individual employee. For example there may be a need for new seating or other equipment which the employee themselves cannot address. These points must be drawn to the attention of the responsible person within the organisation.



8. The assessment may draw attention to issues relating to the physical characteristics of the employee. For example an individual may be particularly tall, particularly short or have an existing injury or weakness.

An example of the latter case was an employee who had a damaged coccyx and could not sit for long periods but was required to work at a VDU and was also required to drive as part of their job. In this case a specific assessment was required which resulted in the employee being provided with a seat with a cut out section under the coccyx and a height adjustable desk so that they could work either seated or standing. The employee was also provided with a car seat cushion also with a coccyx cut-out.

9. To ensure that these special cases are catered for an on-line system must form part of a broader system which will also involve access to specialist ergonomic assessments. Most furniture is designed on the basis of anthropometric data which covers 95% of the population. However to comply with our duties to eliminate or reduce the risks, we are still required to address the needs of the other 5%.
10. If an employer is to demonstrate that they are discharging their duty of care the risk assessment system must retain records of the assessments, any actions required and records that the actions have been carried out.
11. It must also include provision for regular review of the assessments. This is a legal requirement although the guidance from HSE does not specify the frequency with which the re-assessments should be made. It is also necessary for assessments to be reviewed should any element of the work activity change, for example if the employee is moved to a new workstation which may have different furniture or equipment, or be located in a different position.
12. Carrying out risk assessments and implementing the controls is not, in itself sufficient to demonstrate that an employer is complying with their duty of care. It is essential that the individual employees are provided with:

- Information regarding the risks to which they are exposed
- Instruction concerning the controls which have been put in place to reduce these risks to an acceptable level
- Training in how to use the control measures

13. Risk information should explain the nature of WRULDs and the ways in which they can arise and in which the individual employee can be exposed, such as working on DSE for excessive periods without a break.
14. The instruction on controls should outline the policies and procedures that are in place, such as the policy on provision of eyesight tests and corrective glasses. It should also explain the communication processes which have been established for reporting problems to managements where the employee cannot personally resolve the issue.
15. Training should be provided to cover issues such as layout of the desk top and adjustment of furniture. In one case in which the author was involved, many employees were requesting special chairs because they were experiencing discomfort. Investigation showed that they were unaware of how to adjust their seats correctly, particularly regarding the height of the backrest. As a result employees were finding that the lumbar support region of the seat back was applying excessive pressure in the sacral region of the spine because the seat backs were too low. An example of an incorrectly used control measure actually causing problems for the user.
16. A key problem with the provision of information, instruction and training lies in the scale of the need, particularly in a large organisation. Here an e-learning approach can have great value so long as it is backed up by a communication system which allows the employee to get further clarification.

In summary, if an employer is to successfully fight a claim for compensation, it is essential that they can demonstrate the following:

- Compliance with HSE Guidance on the Health & Safety (Display Screen Equipment) Regulations.
- Training for all employees likely to be exposed to WRULDs. This should not be restricted to new starters but should include training for transfers and up-dates for other employees.
- Reassessment when changes occur to an employees work activities, equipment or workstation.
- Regular reviews of workstation assessments.
- The retention of records for all assessments and training including the necessary reviews.
- Validation of the training to demonstrate that the employee has achieved the desired level of understanding.
- There is a means of notifying the company in the event that an employee shows early symptoms of WRULDs.
- A system for referring the individual for an occupational health assessment so that early treatment can be instituted to minimize the consequences for the employee and to minimise the likelihood of a compensations claim.
- A system whereby an individual's activities and workstation are reassessed should a possible WRULD be reported.
- A communication strategy has been put in place to reinforce the training that has been provided. Examples could include poster campaigns or ergonomic demonstrations in health and safety events.
- Monitoring and review of first aid and injury reports to ensure that any trends are identified and addressed at an early stage. This requires good liaison between HR, health and safety and occupational health.
- When any new workplaces are being designed, ergonomic issues should be addressed at the design stage. In some new developments, aesthetics have been known to take precedence over ergonomics in the design of workstations. It should be stressed that the two are not mutually exclusive.

Getting management buy-in

Ergonomists and health and safety professionals all know that preventing WRULDs makes good sense. However, as with many areas of health and safety it can be seen, particularly at senior levels of the organisation as an issue which simply costs money. When at Board level the priority is to maximize profitability and shareholder value, this can be a problem. However, it is a problem, which if approached correctly can be overcome.

So how can we sell an ergonomic programme to the Board?

1. The moral incentives can be addressed:

- No company wants to harm their employees – one enlightened CEO arranged for a briefing for his main board and introduced the speaker by asking how many of the directors had ever had to tell an employee's family that he/she was not coming home as they had been injured or killed. He then explained that he had and did not want others to go through the experience.
- While health and safety might not have been identified as a strategic risk to the business, almost certainly loss of reputation will have been. Should an organisation get a bad reputation for health and safety this can escalate up the corporate agenda.
- Companies who are perceived as not caring about their employees find it difficult recruiting and retaining staff.
- All prosecutions and enforcement notices are now listed on a 'name and shame' section of the HSE website. Potential customers or clients now regularly check this as part of their supplier selection process.

2. 'Good safety is good business'

- We have looked earlier at the true cost of injuries and have demonstrated that the hidden costs may be up to 8 times the insured or direct costs. If a programme is put in place whereby the cost of incidents can be calculated proposals for risk reduction measures can be supported by reference to the return on investment in the same way that any other cost is justified.
- Employers liability insurance is compulsory for all employers. Although the insurance market is to some degree cyclical, over a period of time, those businesses which can demonstrate a better claims experience

can expect to see preferential treatment by insurers with regard to premiums. The market for EL insurance has also shrunk in recent years with some insurers ceasing to write the business and the largest, Eagle Star having been taken over by the Zurich, further reducing capacity. This makes it increasingly difficult for organisations with a poor health and safety record to get cover other than at very high premiums.

- In recent years, employees have been encouraged through advertising in the media to pursue claims for compensation if they feel that they have suffered a workplace injury. Some of the law firms are offering their services on a 'no win, no fee' basis thus increasing the likelihood of a claim being made. Even where this is not to be successful there will be a significant cost both financial and in terms of disruption in preparing to fight the case.
- Societal pressure is leading to courts awarding higher levels of damages in the event of a successful claim.

3. Legal

- The Health & Safety (Display Screen Equipment) Regulations have now been in force for seventeen years and are fairly well understood. In fact there have been few prosecutions brought under these regulations recently. However, with media pressure to find someone to 'blame' there could be an increasing use of s.37 of the Health & Safety at Work Act where individual managers have failed to ensure that employees are not exposed to possible sources of WRULDs.

When we have achieved senior management buy-in the next step is to get them to follow the procedures themselves. When employees see their directors and managers 'walk the talk' they are far more likely to view the need for assessment and training as important than if they see that the rules only apply to them.

The US position

In the US, the Occupational Safety and Health Administration (OSHA), has been working on developing a Federal Standard since the early 1980s. A specific standard for the meat packing industry was introduced but it was not until 1999 that the proposed Federal Standard was published. This was passed into law in the final days of the Clinton administration but was repealed by the incoming President. In the meantime further work has been going on to create the standard.

Some states, such as California, Washington and North Carolina, which have their own OSHAs, have in fact implemented their own standards although some, as with Washington State, are only mandatory for specific industries. The North Carolina standard requires that all employers who provide Workers Compensation cover for their employees must train and/or educate their employees about the causes of musculo skeletal injuries and the ways to control the risk factors.



Economic benefits of a good ergonomics programme

Although they do not have the same level of regulation relating to WRULDs, the experience of US business is similar to that in the UK and as a result of a number of studies, particularly by the National Institute for Occupational Safety and Health (NIOSH), they have produced a body of validated reports on the benefits of ergonomics programmes in practice. This data is based on that published in 'Elements of ergonomics programs' published by NIOSH and the Centre for Disease Control and Prevention (CDC)

1. A study of office workers identified problems of static loading of the back and shoulders during seated tasks. Following provision of desks with a 10 degree incline and improved seating, the force on the lower spine was reduced by 29% and on the upper spine by 21%.
2. A study of 100 workers in cable form production demonstrated that by introducing adjustable workstations and counter-balanced tools, staff turnover decreased, sickness absence decreased by 67% over an 8 year period with a consequent rise in productivity.
3. A study of 500 VDU operators in an office resulted in improved training provision, redesigned workstations and additional breaks. This reduced the incidence of WRULDS for 49 in the 6 months, preceding the interventions, to 24 in the 6 months following the interventions.
4. Across 87 plants of a rubber and plastics manufacturer, ergonomics training was introduced for all employees together with additional material handling equipment and modifications to workstations. As a result of the elimination of postural stress loss time rates at two plants were reduced from 4.9 and 9.7 per 200,000 hours to 0.9 and 2.6 respectively. A later study showed that this improvement had been maintained over a 4 year period.
5. In a medical device assembly plant with 316 employees, workstation redesign together with the provision of adjustable chairs and footrests produced reduction of injury frequency from 13.7 to 11.3 per 200,000 employees and reduced the severity rate from 154.9 lost work days to 67.8 lost work days per 200,000 hours.
6. In the UK, following a review of ergonomic problems in an electronic assembly plant carried out by the author, workstations were redesigned and tools with better ergonomic design were introduced. Over the following 12 months, sickness absence was reduced from 20% to 10% and annual staff turnover was reduced from 20% to <10%.

When OSHA were developing their ergonomics standard it was estimated that the cost to implement it by employers would have been \$4.5 billion per year. It was further estimated that it would have prevented 4.6 million WRULDs, saving industry \$9 billion and generating approximately \$700 million in addition productivity.

These are only a few case studies but they all demonstrate that implementation of a sound ergonomics programme can result in major reductions in the frequency and severity of WRULDs and subsequent improvements in profitability.



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