“Cancer from work can be prevented”

The British Occupational Hygiene Society (BOHS) has welcomed the publication of new research on occupational cancers which, it says, proves that such cancers can be prevented through better recognition of the risks involved.

The new research, to benchmark the preventable causes of cancer in the UK, was published in the *British Journal of Cancer* in December 2011.

The BOHS says the results show that occupational exposure to dusts, chemicals and other workplace pollutants are important causes of cancer in the UK that up to now have not been effectively controlled.

A source at the Society said that occupational cancers are the third most common cause of cancers, after smoking, diet and alcohol consumption, accounting for about 4% of all cancers and totalling almost 12,000 cases each year.

The main causes are:

- asbestos
- crystalline silica dust
- diesel exhaust
- polycyclic aromatic hydrocarbons found in tars, soot and other similar materials.

The BOHS said that activities and exposures associated with these four agents alone account for almost 6000 occupational cancers each year.

In addition, the Society says that each year more than 2000 cases of breast cancer in women are attributed to shift work that involves working at night or other unusual shift patterns that may disrupt the internal body clock.

A spokesperson at the BOHS said: “With appropriate focused efforts almost all occupational cancers could ultimately be prevented.”

*The Fraction of Cancer Attributable to Lifestyle and Environmental Factors in the UK in 2010* was published in the *British Journal of Cancer*.

For further information, see www.bjcancer.com (see Volume 105, Supplement 2).
News

**PPE investigation launched**

The Trades Union Congress (TUC) is investigating the use of personal protective equipment (PPE) at work, as it is concerned that workers may not be receiving the protection they need.

The union body says it is also concerned that workers may even be paying for the purchase and upkeep of legally required protection at work.

Introducing the survey, which it is asking workers to complete online, Hugh Robertson, the TUC’s Head of Safety said: “Despite clear laws that employers must provide and maintain PPE free, millions of workers are having to either supply their own or pay for cleaning.”

Hugh Robertson pointed out that the problem ranged from construction workers who have to provide their own hard hats and boots, to cleaners who have to wash their own overalls.

The aim of the TUC’s online survey is to establish “both the best practices and the worst abuses of the personal protective equipment law”.

The union body was keen to point out that PPE does not cover clothing such as boots and hard hats alone, but can include overalls, aprons, hats, sunscreen and other kit designed to protect workers in their workplaces.

The TUC says it will use the information to increase awareness of the problem and also to encourage the Health and Safety Executive and local authorities to take action against employers who are breaking the law.

It is asking workers using PPE, and their union representatives, to fill out the online survey, and to circulate it as widely as possible.

Hugh Robertson said: “The TUC wants more to be done to both highlight the law and also to enforce it. We have produced a very simple survey which is aimed at finding out what sectors are most affected and are hoping that as many workers as possible will fill it in.”

The survey can be accessed at [www.surveymonkey.com/s/TUCPPE](http://www.surveymonkey.com/s/TUCPPE).

**RIDDOR changes confirmed: April 2012**

The Health and Safety Executive (HSE) has confirmed that, from 6 April 2012, subject to parliamentary approval, the over-three-day injury reporting requirement under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) will change.

Under RIDDOR, employers, the self-employed and people in control of work premises (ie the “responsible person”) have a duty to report serious workplace accidents, occupational diseases and specified dangerous occurrences (near misses).

The changes are the result of the HSE’s January 2011 consultation on the RIDDOR legislation which, in turn, was initiated by Lord Young’s report, *Common Sense, Common Safety*, on health and safety in Britain (published in October 2010).

Following the conclusion of the consultation, the HSE confirmed that, despite protests from unions and some health and safety campaigners, it would recommend changes to RIDDOR in order to increase the period for reporting injuries.

As a result, the HSE has now confirmed that, from 6 April 2012, the trigger point after which an injury must be reported to enforcing authorities will increase, from over three days’ to over seven days’ incapacitation. This does not count the day on which the accident happened.

The HSE has also clarified that “incapacitation” means that the worker is absent or is unable to do work that they would reasonably be expected to do as part of their normal work.

The safety watchdog is keen to stress that employers and others with responsibilities under RIDDOR must still keep a record of all over-three-day injuries. If the employer keeps an accident book, then this record will be enough.

It should also be noted that the deadline by which an over-7-day injury must be reported...
will also increase to 15 days from the day of the accident.

The HSE has prepared new guidance to explain the changes and the documentation can be accessed on its website.

**Fit notes not having expected impact**

Although they have not yet had much impact in helping to reduce levels of employee sickness absence, “fit notes” have provided an opportunity for managers to discuss the best way to help get individuals back to work.

More than half (52%) of employers agree that the introduction of the fit note has enabled line managers to prompt conversations about absence and health issues with their staff, according to newly released findings from the Chartered Institute of Personnel and Development (CIPD)/Simplyhealth Absence Management survey.

Just under a third of the organisations (31%) agreed that the fit note helps line managers to manage absence more effectively. While the great majority of employers (87%) have used the fit note in their organisations, its use was less common in smaller businesses of fewer than 50 employees (54%).

However, just 1 in 10 respondents (11%) said the fit note had reduced absence in their organisation, which is its main purpose. With the same number of employers believing the fit note is being used effectively by GPs, there is clearly a disconnect, the CIPD suggested, between employers’ needs and current outcomes.

CIPD advisor Dr Jill Miller said: “We are seeing some positive reviews of the fit note from GPs, but employers do not share such a warm view at present. GPs and employers need to work from the same page, promoting what is best for the individual employee’s health and well-being, but also what makes sense for the business.”

She suggested that it might well take five years or so before the fit note is consistently used effectively and viewed more favourably by GPs, employers and employees, to support early and lasting returns to work.

**Stress levels rise among UK workers — some turning to drink**

Nearly half of the 1200 adult workers surveyed by YouGov for Croner are more, or much more, stressed than 12 months ago — significant contributing factors given by the respondents include higher unpaid workloads (57%), performance pressures (45%), the need to work longer hours (34%) and the imposition of pay freezes (33%).

Amy Paxton, a senior consultant at Croner, says: “At a time when many industries are under pressure to keep their heads above water, employers cannot afford to have such high levels of stress and the associated difficulties it can cause in their organisations. “Lack of communication or lack of transparency often creates an absence of trust and can undermine the relationship between managers and employees. This sets the scene for employee insecurity and dissatisfaction, too often resulting in higher stress levels.”

Stress affects people in different ways: eating, drinking more alcohol and becoming less friendly towards family, friends and colleagues are all cited as a consequence of increased worry.

She adds that employers have a duty of care towards employees in such matters: “There is a legal requirement for all employers to provide a safe and healthy working environment for staff. It is important to identify the sources of stress and, if possible, solutions should be aimed at eliminating or reducing the impact of these sources. In most situations, it is not always possible to identify the causes, in which case some general principles might be useful.

“Stress can be reduced by improving working conditions, restructuring jobs and allowing more flexible working arrangements. A supportive work ethos and a climate in which staff are encouraged to openly discuss their concerns can also help.”
Professor Craig Jackson examines fatigue in the workforce and explores the view that most workplace and operational demands have increased, while the workers’ need for sleep and rest has remained the same, resulting in a “sleep-deprived” society.

Introduction

Many workers are under greater pressure of work than ever and this, along with other factors such as increased time commuting due to congested transportation systems, has led to a rise in extreme worker tiredness. The workplace may not always be the cause of worker fatigue, and some cases of severe tiredness can be brought about by lifestyle factors, diseases or medical treatment, but they all require considerate management in the workplace.

Fatigue is a non-specific symptom, part of a condition of mental and/or physical weakness, although the underlying causes are often misunderstood. Physical fatigue can describe an inability to function normally due to exhaustion, while mental fatigue can include confusion, slowness of thought and inability to concentrate, and will usually result in sleepiness. Fatigue is now a serious consideration for many organisations, as it can be associated with sleep loss and shift working, and can be found in any organisation — regardless of whether or not shift work is operating. Long working hours, shift systems, anti-social hours and on-call working are causes of workers becoming fatigued, but fatigue can also be a factor for regular nine-to-fivers.

Managing fatigue among workforces requires an understanding of the relationship between working conditions, lifestyle, the individual workers and the manifestation of extreme tiredness.

One of the sectors where the issue of fatigue is most critical is that of transport and aviation. Extreme tiredness has often been cited as a cause of transport accidents and represents a problem for safety-critical industries. Many high-profile industrial accidents have also cited human error as a root cause, with operator fatigue being a mitigating factor.

Despite individual differences, research suggests that most people require between eight and nine hours of sleep each night (Kryger, Roth, Dement; 2005) and the duration of sleep is determined by the time at which sleep is taken. External cues, such as daylight and the noise of diurnal society, can interrupt the length and quality of sleep duration, while internal cues, such as biochemistry and circadian rhythm, also have an influence.

A further problem in fatigue management is that because most people will feel tired from time to time, it can often be ignored or accepted by the sufferer as a symptom of modern life and becomes normalised. A constant difficulty in the area is that individuals’ subjective assessments of their fatigue and tiredness levels are often likely to be unreliable when they are themselves fatigued.

Causes of fatigue

Subjective fatigue and tiredness occurs in 20% of the population and continual fatigue in 10% (Royal College of Physicians, 2008). In this context, fatigue is the terminology for extreme tiredness, and it is suggested that 3% of the UK working population will be suffering from fatigue at any one time. There can be both physical and psychological reasons for fatigue, and causes could include:

- specific problems, such as glandular disorders (diabetes or hypothyroidism)
- sleep disorders (narcolepsy or sleep apnoea)
- muscular disorders (myositis or multiple sclerosis)

Other health problems causing fatigue include being overweight or underweight, anaemia, chronic infections, cancer, respiratory problems or diseases of the liver and heart.

In addition, the treatment for many ongoing conditions can also induce fatigue and these
Extreme tiredness and fatigue management (cont’d)

include recovery following abdominal or chest surgery, medication such as painkillers or beta-blockers, and treatments such as chemotherapy or radiotherapy.

Lifestyles associated with fatigue can include doing too little and being unfit, doing too much and tiring oneself out, pregnancy, breastfeeding, increased use of alcohol or caffeinated drinks, and poor sleep hygiene. Psychological sources of fatigue include persistent worries, concerns or feeling stressed, chronic insomnia, depression or emotional shock.

Symptoms

Fatigue is believed to be twice as common in women as in men, although it is not believed to be associated with age or occupation. It must therefore be viewed as a workplace issue that can impinge on all workers equally. However, it is often suggested that fatigue occurs more readily in those workers who are “psychologically vulnerable” or who are working in conditions they find challenging.

Vulnerable workers are those of certain personality types associated with anxiety, a need for control, and those who are pessimistic; those with ongoing physical health problems; or those with a history or mental health distress or traumatic experience. It is one of the most common presenting symptoms in primary care, being the main symptom among 5–10% of patients, and included as symptoms in a further 5–10% (Sharpe & Wilkes, 2002).

Cumulative fatigue

The effects of fatiguing work and lifestyles have cumulative consequences and a “cumulative fatigue model” proposed by occupational psychologists would view a heavy workload, distributed over long working hours, as a primary risk factor in fatigue development. In addition, fixed factors (such as the worker’s age, circadian tolerance for shift work or health status) represent a second layer of fatigue-modifiers.

Adjustable factors, such as the shift work schedule of the worker (and consequently their social and domestic schedules), present an additional layer of potential modifiers. For some individuals, workload, shift work, health and lifestyle may become unbearable and fatigue may begin to develop. This is sometimes known as acute “shift maladaptation syndrome”, resulting in insomnia, sleepiness, mood disturbances, increased errors and accidents, and social or family difficulties. If allowed to continue, such problems may develop into chronic health problems such as sleep disorders, cardiovascular disease, gastrointestinal problems, increased absenteeism and, in the extreme, disciplinary problems.

Behavioural effects

One certainty of studying fatigue is that when it manifests in the individual or the organisation at large, the levels of both physical and psychological fatigue are highly correlated. There are clear links that show there are many increased hazards and dangers for those operating in workplaces while fatigued. Driving, for example, is an activity where links have been established between driver’s circadian rhythms and vehicle accidents, with incidents of accidents peaking at 2am, 6am and 4pm, even after making adjustments for traffic volume and road congestion (Horne, 1995).

Additional evidence from the Health and Safety Executive (HSE) shows that workplace accidents tend to increase in the final couple of hours of a shift. This is partly due to the effects of physical fatigue, also partly due to behavioural effects such as carelessness and corner-cutting.

Less catastrophically, fatigued workers are also more likely to accept poor and unsafe performance by themselves and others; they become less vigilant, they show signs of poor judgment, and suffer from difficulties in
making decisions. The effects of fatigue, if not reversed, will become more compounded.

One element of fatigue that makes it easier to prevent is that it can be seen as a great leveller — it will eventually impact on all workers irrespective of their skills, willfulness, stamina, fitness, education, training, experience, professionalism, motivation, caffeine, or stimulants. This is a key point that fatigue education programmes need to emphasise to workers — everyone is susceptible to the effects of fatigue. The HSE found that fatigue negatively influences many aspects of worker performance and places such individuals at risk, eg vigilance/monitoring; reaction times; logical reasoning, mental arithmetic; encoding and decoding information; memory; sustaining attention; multi-tasking; decision-making; and visual tracking.

Assessment

Like stress, which is a psychological response to hazards in the workplace, fatigue is a phenomenon that can be measured and quantified within organisations through the use of sensible and careful workplace surveys. Perhaps one of the best and briefest of such assessments is the 11-item CFS11 Scale (Chalder et al., 1993) and although it can be used with sufferers of chronic fatigue syndrome, the scale also works perfectly well with healthy working populations. Taking less than 5 minutes to complete, this scale has 11 statements that the respondent completes alone, answering 1 of 4 options for each of the items (scored 0-3 depending on the severity of the responses). It measures both psychological and physical fatigue, and also provides a global fatigue score, ranging from 0 (zero symptoms) to 33 (maximum symptoms) which allows for the distribution of fatigue to be assessed within the organisation. In addition, there is a secondary scoring system that allows for classification of those who give answers showing symptoms of severe fatigue, which effectively allows for a “case/non-case” grouping.

In addition, an organisation may need to assess and ensure that it is doing all it reasonably can do to minimise the likelihood of fatigue and its effects. A checklist developed by the HSE, Assessing the Risks from Mental Fatigue, provides guidance for employers to ensure they are engaging in best practice. The Fatigue and Risk Index Calculator spreadsheet tool was developed for the HSE’s report, The Development of a Fatigue/Risk Index for Shift Work. The calculator contains two indices: one that relates to fatigue (the Fatigue Index) and one that relates to risk (the Risk Index). Although the two indices are similar, the important difference between them is that, essentially, risk peaks near to midnight, and fatigue tends to peak in workers around five am. The fatigue and risk calculator demonstrates that fatigue and the risk attached are to be considered independently of each other.

In the Fatigue and Risk Index Calculator spreadsheet, both the risk and the fatigue indices comprise three components:

- the cumulative effects (the way individual duty shifts combine to form a working schedule)
- duty timing (the effects of shift start and finish times, as well as duration)
- activity/breaks (the content of the shift, activities undertaken and break times)

Primary interventions

For any organisation that is concerned about the potential for fatigue to develop among staff, the use of a low-key fatigue survey is recommended as an initial procedure. Depending on the frequency of fatigue among staff in the organisation, and the severity of any fatigue responses, an organisation may wish to make interventions.

In order to ensure a cohesive approach to the problem, it would be useful to appoint someone who is aware of health and safety aspects to oversee the programme. In this respect, a fatigue survey will be synonymous with the principles of conducting a stress survey. Staff in the organisation will need to be made aware of the reasons behind such a
widespread investigation and, more importantly, informed of their rights regarding the data they provide. In essence, the ethical considerations of such testing and the security of the resultant data should be treated in accordance with good practice and principles concerning health and medical data.

The organisation may wish to identify those hazards and operations that could be associated with increased fatigue scores/symptoms (such as specific tasks, shifts, work patterns, or demographic factors among staff) and, potentially, poorer performance. The organisation may want to quantify the strength of any relationship between those hazards and fatigue scores. For example, does working night shifts in the organisation lead to significant increases in the number of severely fatigued staff, relative to the day shift-workers?

With any such relationship between hazards and associated fatigue quantified, attempts can be made to eliminate, reduce or control such fatigue, perhaps through the process of redesign, alternative working methods, ergonomics, psychology, or behavioural science. The imposition of prolonged processing or tedious tasks in unstimulating environments should be avoided. In some cases, processes and tasks could be made more difficult for the worker in order to keep their level of stimulation higher and to avoid problems of under-stimulation and tedium.

Leadership training and skills sets for managers can also be used to introduce management to fatigue awareness issues, followed by broader education and training of the workforce. Such education will certainly help with implementing future interventions, such as encouraging flexible working, or allowing workers to self-allocate the shifts that suit them best in order to help combat fatigue.

**Secondary interventions**

Organisations can implement additional measures, such as fatigue awareness campaigns and routine fatigue management sessions, for workers who feel they are at risk of fatigue. Organisations may wish to consult external experts to provide specialist help in providing interventions as broad as cognitive behavioural therapy, change management or time management. External experts could also be used to introduce workers to the techniques of sleep-hygiene, clinical hypnotherapy, or even psychotherapy to help them combat any personal or lifestyle psychological problems that may increase sleeplessness and lead to workplace fatigue.

Workers should be encouraged to refer themselves to occupational health advisors for help and advice if they feel they have fatigue issues, and such referral should be confidential and possess an individualised approach. Dietary improvements within organisations, especially for those workers involved in night shifts would also help to combat fatigue. The use of natural environmental stimulants can also be trialled; this can include the use of “novel” surroundings, colours, smells, furniture, artwork, active postures, interesting decor, music and creative use of daylight when available.

Other secondary interventions may include the following (Jackson, 2007).

- Help employees to develop good sleeping habits.
- Ensure employees have the chance to sleep for at least eight hours between shifts.
- Restrict consecutive night shifts to a maximum 4 × 6 hrs shifts, or 2 × 12 hrs shifts.
- Allow at least two days off after the last night shift in a string of shifts.
- Rotate shifts “forwards” — early shifts, changing to afternoons, changing to nights.
- Comply with the EU Working Hours Directive.
- Avoid long shifts and the use of too much overtime.
- Provide quality breaks during the working day.
- Consider individual worker differences; people are often “morning larks” or “night owls”.

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[Extreme tiredness and fatigue management (cont’d)]

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Issue Number 160 MANAGEMENT OF HEALTH RISKS SPECIAL REPORT 7

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“Power naps” of 20 minutes can restore performance and morale in night workers.

Arrange for interesting and varied work to be done on night shifts.

(Jackson, 2007.)

Summary

Fatigue and extreme tiredness could represent a new wave of psychosocial hazard in UK workplaces already struggling to cope with the aftermath of the “stress epidemic”. The level of fatigue in workplaces may depend on the future economic position of the UK and how hard the population is “worked” in the next few years. It is clear that the workplace will not always be responsible for the fatigue that some workers experience, and lifestyle factors play a major role in its aetiology. However, the effects of fatigue will be present in the workplace irrespective of the nature of the source, and the workplace provides the best opportunity for addressing the problem.

In a sleep-deprived society, where many people no longer receive the rest they need, the workplace may become the new front of public health development in addressing this pervasive health problem.

Additional resources

- Health and Safety at Work, etc Act 1974, s.3
- Management of Health and Safety at Work Regulations 1999, regulations 3 and 5
- HSG48 Reducing Error and Influencing Behaviour
- Validation and Development of a Method for Assessing the Risks from Mental Fatigue

- Good Practice in Fatigue Management Checklist (HSE)
- Shift Work Guidance (HSE)
- Shift Work Booklet (ASLEF)

References


“Fatigue” British Medical Journal 2; 325: 480-483 Sharpe M, Wilks D 2002

