



A STATE OF MIND



# Fatigue

You can't hide it!

Leadership  
Guide

# What is fatigue?

Fatigue is generally considered to be a feeling of tiredness and an inability to perform properly.

It can result from prolonged exertion, sleep loss and disruption of the internal body clock. It is also related to workload in that workers may become more easily fatigued if their work is complex, monotonous or machine-paced.

Night workers are particularly at risk as their day sleep is often lighter, shorter and more easily disturbed because of daytime noise and a reluctance to sleep during daylight.

Research has shown that when fatigued, an individual's performance is affected and errors are more likely.

In particular, in tasks requiring:

- Vigilance and monitoring.
- Decision making.
- Awareness.
- Fast reaction times.
- Memory.



**A poor balance between work demands and rest and recovery may lead to chronic fatigue.**

**Domestic and lifestyle factors such as child care responsibilities and a second job may also play a significant part.**

## Why it's important

As has already been highlighted fatigue has many effects including slower reaction times, reduced ability to process information, memory lapses, absent-mindedness, decreased awareness, lack of attention and underestimation of risk.

It has been found to be a root cause in major accidents including *Herald of Free Enterprise*, *Chernobyl*, *Clapham Junction* and *Exxon Valdez*. Fatigue has also been implicated in 20% of accidents on major roads and is said to cost the UK millions in terms of work accidents.

Poorly designed shift working and long working hours without sufficient time for recovery can result in fatigue and consequently accidents, injuries and ill-health.

Fatigue may also lead to health effects such as raised blood pressure, heart disease, stomach disorders, and aggravation of mental health problems. Disruption of the internal body clock may also adversely effect a number of medical conditions including asthma, depression and diabetes.

# Fatigue & the Law

Fatigue needs to be managed like any other hazard, and its importance should not be minimised.



There is clear evidence to show that the incidence of accidents and injuries is higher on night shifts, after a succession of shifts, when shifts are long (more than eight hours) and when there are inadequate rest breaks.

The Health and Safety at Work Act 1974 places clear responsibilities on the employer to protect employees, and the employees to take reasonable care of their own health and safety and that of others who may be affected by their work.

The Management of Health and Safety at Work Regulations 1999 is the main instrument for risk assessment and management systems to control fatigue. The Working Time Regulations 1998 must also be considered but simply adhering to the rules in relation to the allowed maximum worked hours will not prevent safety critical workers from becoming fatigued.



# Minimising the effects

In establishing a working pattern, it is important, particularly for safety critical workers, to consider a number of factors:

### Length of duty period

There is evidence to show that after 12 hours performance deteriorates significantly but this will depend on intensity, demands, concentration required and breaks.

### Interval between duties

An adequate rest interval is required, taking into account travelling time, as this is not restful. Eight hours is not ideal, but may occur in some shift patterns.

### Recovery time

There is a need for individuals to recharge and a benefit to a 48 hour break on at least a two weekly basis.

### Shift work

Rotating shifts, including nights, may lead to difficulty in sleeping patterns and resulting fatigue which may be most obvious on the night or early morning shift.

Individuals may prefer to work more consecutive shifts and then have a longer break, but this needs to be balanced against the increasing fatigue incurred with an increasing number of shifts. Forward cycling of shifts is considered to be better at minimising the effect of fatigue, i.e. moving from days, to lates, to nights.



### Time of day

The risk of fatigue related accidents is related to time of day and has been found to be worst between midnight and 6am, followed by 2pm-6pm.

### Rest breaks

Breaks should ideally be taken away from the workstation in a cool area where it is possible to sit and walk about, as well as prepare food and drinks.

### Communication

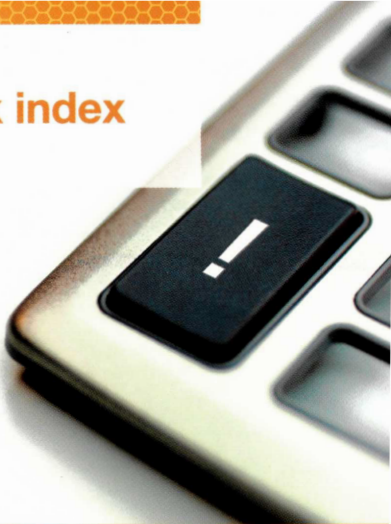
Ensure working patterns are discussed with employees and that they feel able to raise any issues relating to the working environment, work patterns and in particular are able to flag up if they are feeling fatigued without fear of being penalised.



# HSE fatigue & risk index

The HSE has developed these indices and a calculator tool which can be used to establish where the most serious fatigue risks are within a shift pattern and allow controls to be put in place.

The tool has been updated to include both a fatigue index and a risk index each expressed in relation to three components: cumulative, duty time and job type.



The HSE guidance document about the fatigue and risk calculator, is available at: [www.hse.gov.uk/research/rrhtm/rr446.htm](http://www.hse.gov.uk/research/rrhtm/rr446.htm)

## What do you need to do to address the hazard of fatigue?

- Consider fatigue in your risk assessments.
- Ensure employees are made aware of the issue and their own responsibilities with respect to fatigue.
- Record accidents and near misses and their timing and investigate.
- Review absenteeism and employee turnover.
- Address employee welfare.
- Review performance and productivity.

## Useful references

- [www.hse.gov.uk/humanfactors/topics/fatigue.htm](http://www.hse.gov.uk/humanfactors/topics/fatigue.htm)
- Managing Shift Work: Health and Safety Guidance HSG 256.
- Reducing Error and Influencing Behaviour HSG 48.
- The Development of a Fatigue / Risk Index for Shift Workers: HSE Research Report 446.
- Managing Fatigue in Safety Critical Work, Office of Rail Regulation (ORR) 2006.