

## LHC Factsheet - October 1998

# Working time: Part 1: Shift work and night work



[Home page](#)

[Resources page](#)

[Factsheets list](#)

*This is Part 1 of a two-part factsheet on working time. This Part deals with the health effects of shift work and night work and how to avoid them. Part 2 will deal with long working hours and the law and organising, especially the Working Time Regulations which came into force on 1 October 1998.*

Shift work and night work are carried out for technological (some processes require continuous production or more time than a normal working day), economic (obtaining the most use of capital equipment), or social reasons (health care, emergency, travel, information and entertainment services; energy and water supply). Only some of the social reasons are completely justifiable and many of the other types of night work and shift work could be reduced or eliminated if the maintenance of the health, safety and quality of life of workers was a primary objective of economic activity.

## Who works shifts?

According to the Labour Force Survey of Spring 1997, 3.6 million UK workers usually worked shifts, some 14 per cent of all people in employment. A further unknown number took part in shift work from time to time. Shift work was only slightly more prevalent for men than for women. It was most common among plant and machine operators (over 30 per cent of men and 20 per cent of women in the sector) and personal and protective services (more than half of the men and about 30 per cent of women). By far the most common occupational group of women working shifts was nurses. Double-day and continuous systems were about equally common. Some eight per cent of workers were on permanent nights and four per cent worked split shifts.

Only about 10 per cent of shift workers like it according to a Health and Safety Executive review. Another 20-30 per cent of workers do not like it and the rest just put up with it.

## Health effects of shift work and night work

Human beings tend towards daytime wakefulness and sleep at night. The body operates on a 24 hour clock, on cycles known as circadian rhythms. Disruption of these rhythms is considered to be the major cause of the harmful effects of shift work, even if absolute proof is lacking so far. Complete adjustment to changing cycles is rare and the ability to do so declines with increasing age. The major health effects are:

Fatigue and sleep deficits. Workers who have to sleep by day often experience difficulties because their body clock does not adjust completely and they are more prone to disturbance. Both the quality and duration of sleep are affected. Sleep deficit and fatigue can build up and affect work, e.g. through the increased possibility of accidents. Gastrointestinal disorders. Irregular food intake associated with night and shift work can lead to stomach complaints. Some studies have found that permanent shift workers are more than twice as likely to suffer from peptic ulcers as day workers. Another study showed that workers on permanent shifts develop peptic ulcers after about five years on average. Cardiovascular disorders. A significant relationship between shift work and heart disease has been reported in a high proportion of studies, especially

the more modern ones. Neurological disorders. There is accumulating evidence for an increased incidence of neurological symptoms among shift workers, developing into mental illness. One study reported the average onset period for mental illness in shift workers as less than four years. Menstrual disorders. Some studies report a link between shift work and disruption of the menstrual cycle. Effects also arise from the impairment of conventional social and family life, resulting in increased substance abuse and the breakdown of marital and other relationships. Difficulties are particularly acute for women with child-care responsibilities.

In recent years, there has been a growth in 12 hour and longer shifts rather than the more traditional 8 hour period. Much research effort has gone into determining whether or not this imposes extra health effects with inconclusive results to date. It would seem that circadian disruption, fatigue and sleep deficit would be exacerbated by a 12 hour system. Other factors need to be considered, e.g. exposure to toxic materials where limits appropriate for 8 hours would no longer be safe for 12 hours.

### **Guidelines for minimising the health effects of shift work**

A vast amount of literature has been published on which shift systems are least harmful, without any clear-cut conclusions being reached. Tentative proposals advocated by the European Foundation for the Improvement of Living and Working Conditions are:

permanent nights should be minimised only 2-4 shifts in succession should be worked on permanent nights short intervals between two shifts should be avoided with at least 24 hours, and preferably 48 hours, between sets of night shifts at least some weekends should be completely free compressed working periods, say of 8 or more continuous working days, should be avoided the length of the shift should be related to the task to be performed the night shift could be made shorter than the other shifts forward rotation (mornings, then afternoons, then nights) is preferred for continuous shifts morning shifts should not start too early rotas should be as regular as possible there should be some opportunity to swap shifts and change handover times short-term rota changes for operational reasons should be avoided good notice should be given of any changes in shift patterns

Other conditions which should apply to shift and night work are:

availability of hot food and drinks, rest areas and first aid safe travel to and from work at unusual hours same access to training as other workers access to union representation including time off in lieu to attend meetings provision to return to regular day work without penalty; this is especially important for older workers

A huge amount of advice is available for shift workers on how to cope on a personal level with the demands of the job. The European Foundation offers 36 tips on dealing with sleep problems, 12 guidelines on eating on shift work, six rules for physical fitness and 11 ways for keeping social contact. Basically the advice is to follow as conventional, regular and moderate lifestyle as the circumstances allow. The advice attempts to fit the worker to the job rather than the other way around and is therefore open to fundamental criticism. As in all other areas of health and safety, the essential onus in ensuring that safe systems of work are brought into operation lies with the employer.

Hours of Work, P. Knauth, *Encyclopedia of Occupational Health and Safety*, chap. 43, 1998, International Labour Office.

*Guidelines for Shiftworkers*, A. Wedderburn, 1991, European Foundation for the Improvement of Living and Working Conditions, Wyattville Road, Loughlinstown, Co. Dublin, Ireland.

---

(c) London Hazards Centre 1998