



Royal College  
of Nursing

# A shift in the right direction

*RCN guidance on the occupational health and safety of shift work in the nursing workforce*





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Kim Sunley, RCN Senior Employment Relations Adviser

Nicola Lee, RCN Employment Relations Adviser

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# Foreword

In many health care settings, patient care depends upon the delivery of a nursing service 24-hours a day, seven days a week. Consequently, service provision relies heavily on nursing staff working shifts. Adapting to shift patterns or changes in shift patterns can be difficult and if the associated risks are not managed properly, this can lead to ill health and fatigue, which in turn can have an impact on patient care.

The World Health Organization (WHO) states that employers have a moral, legal and business requirement to ensure a healthy workplace. According to WHO (2010), this requirement is *“one in which workers and managers collaborate using a continual improvement process to protect and promote the health, safety and wellbeing of all workers and the sustainability of the workplace... the healthy workplace principle is one that actively promotes health and not just prevents ill health and reduces sickness absence”*.

In the spirit of collaboration, promotion and protection, this guidance explores the health and safety impacts of shift work, employers’ responsibilities to manage shift patterns and care for shift workers, and gives practical tips on how

nurses and health care assistants working shifts can help look after themselves.

This publication is primarily aimed at RCN safety representatives to assist them in their work with employers to protect members and patients from the negative impacts of shift working. It will also be a useful resource for health care managers or specialist advisers responsible for managing shift systems or supporting the health, safety and wellbeing of health care workers. Ideally, this publication should be read in conjunction with *Spinning plates* (RCN, 2008), the RCN’s guidance on flexible working.

Changes in shift patterns may also affect an individual’s contract of employment and/or terms and conditions, and further information on employment rights can be found in Appendix 3 on page 38.

I commend this publication and would encourage its circulation within your organisation to promote a healthy working environment and support your organisation’s greatest asset – its staff.

**Robert Moore**  
Chair, RCN UK Safety Representatives Committee

# Introduction

The reality of 24-hour health care delivery means many health care workers are required to work shifts. There is no specific definition of shift work in law but it usually means a work activity scheduled outside standard daytime hours where there may be a handover of duty from one individual or work group to another, or a pattern of work where one employee replaces another on the same job within a 24-hour period.

Shift work patterns can take many forms and Table 1 gives examples of common shift patterns across many occupational settings and the terms used to describe shift work.

**Table 1: Common shift working terms and patterns**

Common terms used in shift work	Type of shift pattern
Rotating shifts	Working a pattern of days and nights, this refers to the speed and direction which workers change shifts. Shifts can be forward (from morning to afternoon to night shifts) or backwards rotating (the reverse of forward).  Rotation can be fast; for example changing from early to late shifts every day or so, or doing a week of 'earlies' then a week of 'lates'.
Night shifts	Typically starts anywhere between 8pm and 10pm and runs for 10-12 hours.
Split shifts	This involves the shift being split into two parts; for example, a worker may work the first part of the shift between 6am-10am and the latter part between 4pm-8pm.
12 hour shifts	12-hour shifts are worked instead of the more traditional eight hour shift arrangement.
'Earlies' or morning shift	Typically a 7am-3pm or 8am-4pm shift.
'Lates' or evening shift	Typically 2pm-10pm, but in part time work can be 5pm-9pm.
Continental shift	This is a continuous three-shift system that rotates rapidly; for example three mornings, then two afternoons, then two nights.
Three-shift system	The day is divided into three working periods – morning, afternoon and night. This kind of shift work can involve a week of mornings followed by a week on evenings and a week on nights.
Double days/two shift	This is normally two shifts of eight hours each; for example 6am-2pm and 2pm-10pm. Shifts are usually alternated weekly or over longer intervals.

In 2009 an RCN survey of the nursing workforce found that 57 per cent worked shifts; of those, 58 per cent worked internal rotation, 32 per cent worked day shifts and 10 per cent worked permanent night shifts. The survey revealed there were differences in sectors, with permanent night shifts more prevalent in the independent sector and among agency and bank nurses. Working 12-hour shifts was found to be more common among nurses working in care homes; 63 per cent worked 12-hour shifts compared to 41 per cent of NHS hospital nurses and 34 per cent of independent hospital nurses.

The health and safety impacts of shift work are widely recognised. Long hours, fatigue and lack of rest breaks or time to recuperate between shifts are associated with an

increased risk of errors. For example, fatigue and shift working arrangements were cited as major contributory factors in incidents such as Bhopal, the Clapham Junction rail disaster and Chernobyl (HSE, 2012a). Fatigue is a recognised contributing factor in patient safety incidents such as drug errors (Health Service Journal, 2005).

In addition, long-term exposure to shift work, particularly night shift work, has been associated with a whole range of health issues for workers. These range from chronic sleep deficit to gastrointestinal problems, cardiovascular problems, and an increased susceptibility to minor illnesses such as colds and gastroenteritis (Harrington, 2001; HSE, 2006).

## 1

# Shift work: health, safety and fatigue

## Circadian rhythms

Many of the health and safety impacts of shift work are associated with a disruption of the internal 24-hour body clock or circadian rhythm. Circadian rhythms are controlled by our hypothalamus in the brain. Sleeping, waking, digestion, secretion of adrenalin, body temperature, blood pressure, pulse and many other important aspects of body functions and human behaviour are regulated by this 24-hour cycle. Humans are diurnal creatures, meaning that they are active during daylight hours.

Our circadian rhythms have evolved, so that humans are active and perform best in the day and need to sleep at night. The circadian rhythms of shift workers working nights or rotating shifts can be disrupted which can lead to sleep disturbances, fatigue and health effects. Our body clock can make some adjustments to changes in our sleep/wake cycle however our internal body clock never fully adjusts, even for workers on permanent night shifts.

Individuals will vary in their tolerance of shift working. Some individuals have a better adjustment to irregular shift patterns. Late sleepers (owls) adapt more easily to night shifts and rotating shifts than those who go to sleep early (larks).

There are optimal shift patterns which can help mitigate disruption to the circadian rhythms and therefore reduce the risks, such as putting in place forward rotating shift patterns – in other words, moving from early to late to night shifts rather than the reverse.

## Sleep deprivation

Most adults appear to need between seven to eight hours sleep a night. Sleep is protective, allowing the body and mind to recuperate and rest. For many night shift workers sleep during the day can be fewer than seven hours, and may

be of poorer quality and disrupted by daytime noise. Long working hours and inadequate breaks between late to early shifts can also impact on quantity of sleep.

Deprivation or loss of sleep can be acute (for example, a parent staying up one night to care for a sick child) or cumulative, and this can lead to sleep debt, fatigue and poor health if cumulative.

The effect of being awake for 17 hours or more has also been compared with having blood alcohol levels over the drink driving limits in most European countries (Department of Transport, 2010).

## Fatigue, errors and accidents

Fatigue is defined as the decline in mental and/or physical performance that results from long working hours, lack of sleep, poor quality sleep or poorly designed shift work causing disruption of the internal body clock.

Fatigue can result in slower reactions; decreased vigilance/increased risk taking behaviour; impaired problem solving ability, communication and memory; and can affect decision-making.

Fatigue is cited as a contributory factor that can lead to an increased risk of errors and accidents. Fatigue has been implicated in 20 per cent of accidents on major roads and is estimated to cost the UK between £115 million and £240 million per year in terms of work accidents (HSE, 2012b).

In health care, staff fatigue has been recognised as a contributory factor to patient safety incidents including drug errors (NPSA, 2004). The effect of continuous shift work has also been likened to a long distance traveller working in San Francisco and returning to London for their rest days (Harrington, 2001).

## Health

There have been numerous studies of the impact of shift work on health and it is widely accepted that poorly managed shift work, particularly night shift work, can have a negative impact on mental health, the cardiovascular system, gastrointestinal system and reproductive health.

In their 1992 book *Making shift work tolerable*, Monk and Folkard describe shift work as “probably bad for the heart, almost certainly bad for the head and definitely bad for the gut”.

Much of the research on managing the risks of shift work has focused on the impact of sleep deprivation and fatigue on accidents in safety critical industries. However, employers also need to recognise that the health impacts of shift work are another factor that must be recognised in order to prevent ill health and promote health and wellbeing in the workplace.

### **Mental health**

There is some evidence of increased anxiety and depression in shift workers linked to sleep deprivation, long working hours, chronic fatigue and disruption to family life and/or social support. Having a choice of shift patterns is also an important factor; an RCN study of nurse wellbeing found that working shifts when this is not the preferred pattern of work is associated with poorer psychological wellbeing (RCN, 2005).

### **Cardiovascular system**

Cardiovascular problems such as hypertension and coronary heart disease have been linked to shift work.

### **Gastrointestinal system**

Shift work has been linked with an increased risk of constipation, stomach ulcers and stomach upsets. These are most likely due to disruption of circadian rhythms and digestive patterns as shift workers eat at irregular hours. Increased use of cigarettes, caffeine and other stimulants in night shift workers may also affect the digestive system. Diabetes and obesity have also been linked to shift work. Lack of access to hot, good quality healthy foods during shifts may exacerbate these conditions.

### **Reproductive health**

Shift work, particularly night shift work, may present risks to women of child bearing age. This is thought to be linked to the disruption of the menstrual cycle. Night shift work has also been linked to an increased risk of spontaneous abortion, low birth weight and prematurity (Harrington, 2001).

### **Cancer**

Working night shift has been associated with an increased risk of breast cancer. In 2007, the WHO International Agency for Research on Cancer classified shift work involving night work as probably carcinogenic to humans (WHO International Agency for Research on Cancer, 2010). There is still much debate over this in the scientific community and studies indicate that the risk is associated with long-term exposure – in other words, the number of years doing night shifts. Scientists and doctors in Denmark have recognised the risk to nurses and other workers doing night shifts and have made recommendations on the length of time doing night shift work; in the UK further research is being carried out by the HSE which is due to report in 2015 (Bonde et al., 2012).

### **Age**

There is some evidence to suggest that older workers, in particular women, become less tolerant to shift work, particularly night work. With age, sleep becomes shorter and more fragmented and older workers may need a longer recovery time between shifts and may take longer to adjust to major changes in shift patterns (European Agency for Occupational Safety and Health, 2012).

Costa and Sartori (2007) noted a pronounced deterioration in the health of shift workers over the age of 55 than in day workers and made recommendations which included limiting night work, shortening hours, increasing breaks and more frequent health checks for older shift workers. Some studies have suggested that it is the cumulative effects of doing night shifts over a number of years that has an effect on health rather than age.

Younger workers adapting to shift work for the first time may need extra support.

### **Pre-existing conditions**

Shift work may also exacerbate existing health problems such as diabetes, asthma, epilepsy and psychiatric illness. It has also been shown that some medications may not have the same effect on the body of a shift worker as they would for someone working a normal day schedule.

### **Individual issues and lifestyle factors**

Individual factors such as lifestyle (for example diet, smoking, alcohol consumption), social factors, behaviour,

family history as well as age and gender can contribute to the risk of ill health in shift workers.

There is some evidence to suggest that shift workers are more likely to be reliant on drugs and stimulants to help them sleep or aid alertness – for example sleeping pills, caffeine, pain killers or cigarettes.

## Social rhythms

In addition to circadian rhythms, some authors describe the concept of social rhythms.

*Social life is based on shared rhythms of sleep, mealtimes, work and recreation. Shared meals and shopping, evenings with family, TV, weekend football matches, barbeques, celebrations, these are the glue that holds our social support networks together. Shift work brings a separation from these shared rhythms of general life and can separate the shift worker from family and friends.*

London Chamber of Commerce and Industry, 2004

Social rhythms are important for psychosocial health and the predictability of patterns of work are a major issue for shift workers who need to be able to plan activities, social arrangements and caring responsibilities ahead. It is important that, wherever possible, shift systems run as planned to facilitate this.

## Conclusions

The above list of health conditions and risks may look daunting to those who have to work shifts as part of their job, but the good news is that there are steps that an employer and an individual can take to reduce the risks from shift work to health, safety and wellbeing. These are outlined later in this guidance.

For some people, shift work has many benefits. In addition to the financial benefits of working unsocial hours, many find that shift work helps them better manage their caring responsibilities. Furthermore, travelling to and from work at off peak periods against the traffic or commuters and carrying out routine domestic tasks at less busy periods are all reasons people prefer shift work. There is also some evidence to suggest that those who do not adapt well both physically or mentally to shift work, will self-select jobs with more routine working hours.

## 2

## Employer responsibilities

A number of general and specific health and safety related laws and regulations are applicable to the management of shift work, and these are listed in Table 2.

The Health and Safety Executive (HSE) recognises shift work as a workplace hazard that can present risks to both workers and the public; it expects employers to assess the risks from shift work and take action to reduce these risks.

As shift workers have been found to have a higher level of sickness absence and increased susceptibility to minor ailments it also makes good business sense to reduce and manage the risks to shift workers.

Employers also need to be mindful of the potential patient safety impacts of fatigue in shift workers and need to manage shift work as part of a package of measures to improve patient safety.

**Table 2: Health and safety laws and regulations**

Law	Key requirements	Application to shift work
Health and Safety at Work etc Act 1974	<p>Section 2 of the act places duties on employers to protect the health, safety and welfare of employees.</p> <p>Section 3 of the act places duties on employers to ensure work activities do not affect the health and safety public or others.</p> <p>Section 7 of the act places duties on employees to take reasonable care of their health and safety and that of others.</p>	<p>The employer has a duty to protect shift workers and patients who may be affected by fatigue or the health impacts of shift patterns.</p> <p>Employees should also raise concerns in circumstances where fatigue presents a risk to them or patients. The Nursing and Midwifery Council (NMC) Code also places duties on nurses and midwives (see page 24 of the Code).</p>
Management of Health and Safety at Work Regulations 1999	<p>Employers must carry out suitable and sufficient risk assessments of all significant hazards in the workplace.</p> <p>Assessments must be carried out to identify any health and safety risks to new and expectant mothers and measures must be put in place to protect the employee and the unborn/new child.</p>	<p>Shift work is a hazard and employers need to assess the risks of shift work and put in place measures to reduce the risks of shift work on the health and safety of employees.</p> <p>Night shift and long working hours are recognised as risks to pregnant workers. If a specific risk has been identified to the pregnant worker and/or her GP/midwife provides a certificate stating she should not work nights, her employer must offer suitable alternative day time work on the same terms and conditions. If that is not possible, the employer must suspend her from work on paid leave for as long as is necessary to protect her health and safety and/or that of her child. Suitable rest facilities should also be provided for expectant mothers and those who are breastfeeding.</p>
Working Time Regulations 1998 (WTR)	<p>Places duties on employers to manage working hours through limits on the working week and night work. The regulations detail requirements for employers to provide in work, daily and weekly rest breaks and health assessments for night shift workers.</p>	<p>Employers must ensure that shift working patterns are compliant with the working time regulations.</p> <p>Night shift workers must be offered free health assessments at regular intervals. If, in the view of a registered medical practitioner, a worker is suffering from health problems that are caused by or made worse by night work the employer should transfer him or her to day work. Further information on the specific requirements of the Working Time Regulations can be found in Appendix 2.</p>

Workplace (Health, Safety and Welfare) Regulations 1992	<p>These regulations detail employers' duties to provide a safe physical work environment and welfare requirements such as toilets, and rest areas.</p> <p>The law requires that suitable and sufficient and readily accessible rest facilities are provided for workers.</p>	<p>Where workers regularly eat meals at work, suitable and sufficient facilities should be provided for the purpose. Such facilities should also be provided where food would otherwise be likely to be contaminated.</p> <p>Work areas can be counted as rest areas and as eating facilities, provided these are adequately clean and there is a suitable surface on which to place food.</p> <p>Facilities should include a facility for preparing or obtaining a hot drink. Where hot food cannot be obtained in or reasonably near to the workplace, workers may need to be provided with a means for heating their own food (for example, a microwave oven).</p>
Safety Representative and Safety Committee Regulations 1977	<p>Employers must consult with safety representatives on matters affecting the health and safety of staff.</p> <p>Employers must allow safety representatives paid time off to:</p> <ul style="list-style-type: none"> <li>• inspect documents relating to health and safety</li> <li>• investigate reportable incidents and complaints from members</li> <li>• inspect the workplace</li> <li>• set up a health and safety committee.</li> </ul>	<p>Shift work patterns or consultations on changes in shift work patterns must involve safety representatives, as changes have the potential to impact on the health and safety of members.</p>

## Driving and fatigue

Workers who drive during their working hours, such as community nurses, are also covered by health and safety laws and employers need to assess the risks associated with fatigue and driving during work hours in shift workers. Health and safety regulations do not extend to commuting to and from the workplace but employers have a common law duty of care to employees.

The Royal Society for the Prevention of Accidents (RoSPA) recognises drivers who work shifts as being a high risk group for fatigue-related car accidents, especially at the end of a night shift or a long shift (RoSPA, 2011).

### Equalities Act

Employers also need to be aware of their responsibilities to all workers under the Equalities Act 2010 (EA10). Workers with long-term conditions such as diabetes or epilepsy may be classified as disabled under the Equalities Act. Employers are required to make reasonable adjustments to the employment of disabled workers so, for example, if a

condition is exacerbated or difficult to control due to shift working patterns the employer would be required to make changes to those working arrangements as a reasonable adjustment to support the worker.

Such a reasonable adjustment could be adjusting the shift pattern or amount of shift work undertaken, for example, for an employee with epilepsy whose seizures are triggered by a lack of sleep.

The EA10 provides protection against discrimination in the workplace on a number of grounds, and sensible employers will want to ensure that the allocation of shift working and work arrangements in general does not place any one group of staff at a disadvantage. Effective monitoring is required for this and regular pay audits that track unsocial hours payments or overtime allowances can also be useful.

It should be noted that although age is a protected characteristic under EA10, the requirement to make reasonable adjustments to working arrangements only applies to disability.

## 3

# Shift work risk assessments

## 1. Have a system in place

Organisations should have systems in place to manage the health and safety risk of shift work. One of the biggest challenges and culture shifts may be to get health service employers to recognise shift work as a health and safety issue, so it is important that senior managers are aware of the risks and their legal duties under health and safety related laws in addition to being compliant with the Working Time Regulations.

The HSE advises that clear policies and procedures should be put in place for managing shift work arrangements. It also recommends ensuring that people throughout the organisation, no matter how large or small, are aware that preventing or limiting the risks of shift working needs to be considered at all levels of planning.

Organisations need to familiarise themselves with the risks of shift working and the legal requirements. Health care organisations need to take a collaborative approach to shift work planning and management by involving occupational health and health and safety advisers, human resource advisors and clinical risk leads. In addition, safety representatives must be consulted and fully involved in the process, and they will need to work alongside stewards where changes in shift patterns are being proposed. In organisations that do not recognise trade unions, or where there are no safety representatives, staff will still need to be consulted on measures that have the potential to affect their health and safety. Giving staff a choice and a voice in shaping their shift working patterns is essential for maintaining or improving morale, reducing turnover of staff and absenteeism.

The HSE advises the creation of a working group of internal stakeholders to look at shift working arrangements and review whether the risks to health and safety are being managed.

## 2. Assess the risks and establish who may be harmed

The risk of fatigue related incidents and health impacts on workers need to be assessed. The HSE requires a suitable and sufficient assessment of the risks to be carried out under the Management of Health and Safety at Work Regulations (1999) and employers need to gather and evaluate information about current shift working arrangements in the organisation.

Quantitative data on accident rates, near misses, sickness absence, data on overtime (unpaid and paid) and patient safety incidents such as drug errors can help inform the assessment. If available, data and trends on the time of day of an incident can help to identify issues with shift patterns.

Qualitative data such as information from exit interviews, appraisals and discussions with safety representatives can also be used.

There are a range of survey tools available to assist in gathering data such as the HSE's Fatigue and Risk Index Tool and the Epworth Sleepiness Scale (see the Further information and resources section on page 25 for more details on these tools).

While all workers are at risk from shift work some groups may be more vulnerable than others, these include:

- young workers adapting to shift work for the first time
- older workers
- pregnant workers
- those with pre-existing health conditions which may be made worse by shift work and those who take time dependent medication (for example, insulin)
- on call workers who follow a shift with a period of on call
- agency or bank nurses who may be subject to different shift patterns from the different organisations they work in.

The risks to members of the public and patients should also be considered in the risk assessment. The HSE also points out that individuals are not good at assessing how fatigued they are, so it is essential that employers monitor the risks (HSE, 2006).

### 3. Take action to reduce the risks

The HSE has developed a number of evidence-based risk reduction strategies which are detailed in tables within Appendix 1 on pages 26-35. These are classified into different areas and provide a holistic and comprehensive approach to risk reduction. Areas that need to be addressed in order to reduce the risks include:

- **workload** – high workloads are a major contributor to stress and fatigue
- **work activity** – the type of work carried out (for example, repetitive or sedentary); in nursing this will vary according to practice environments
- **shift patterns** – the benefits and drawbacks of different types of shift patterns
- **timing of shifts** – looking at issues around night shift starting times
- **duration of shift** – looking at the length of the shift and the risks associated with long shifts
- **rest breaks within shifts and between shifts** – outlining good practice and the requirements of the Working Time Regulations
- **physical environment** – looking at factors such as access to facilities, lighting and temperature which can contribute to fatigue in shift workers
- **management issues** – exploring the role of training, supervision and communication
- **welfare** – exploring the role of occupational health in supporting shift workers.

#### Learning from other sectors:

The health care sector can learn a lot from other industrial sectors which have learnt lessons from major disasters and developed systems to manage the risks of fatigue and improve the health of shift workers. For example, a UK refinery put in place:

- a shift worker and family education programme was set up led by occupational health, to improve staff understanding of the risks from shift work, and the key control and personal measures that can be taken to reduce them
- to improve resource management a training plan was developed to capture known and projected sickness and light duties, priority training, turnarounds, day assignments and retirements. This much improved control of training and caused much less disruption on shifts when staff are released
- the introduction of a key performance indicator (KPI) for managers which tracks monthly staff time as a health check including overtime and sickness.

Source: Wilkinson and Rudd (2011)

#### Key good practice guidelines on shift work design

- Rather than spending time and effort looking for the perfect shift system, managers would be better placed managing and monitoring what they have.
- Make sure you have enough staff, and in the right places, for the work to be done and to cover foreseeable peaks such as upsets, emergencies, absence, illness, training and project cover.
- Predictability of the pattern they work is a major issue for shift workers. Managing shift systems to run as planned is therefore very important.
- Predictability is equally important for managers and supervisors so they are not running around to fill the gaps every week.
- If you are going to change your system, don't do it too quickly. Reviews of shift patterns can and should take some time and actively involve key staff.
- Beware specialist fatigue/shift work businesses selling you their services and products – get a grip on what you've got first and engage staff.

- Choose different numbers of shift teams so that you can build in spare capacity for training, absence and illness cover – in other words an ‘extra shift’.
- Plan a workload that is appropriate for the length and timing of the shift.
- If reasonably practicable, schedule a variety of tasks to be completed during the shift and allow workers some choice about the order in which they need to be done.
- Avoid scheduling demanding, dangerous, monotonous and/or safety-critical work during the night, early morning, towards the end of long shifts and during other periods of low alertness.
- Avoid placing workers on permanent night shifts.
- If possible, offer workers a choice between permanent and rotating shift schedules.
- Where possible, adopt a forward rotating schedule for rotating shifts rather than a backward-rotating shift schedules.
- Either rotate shifts very quickly (for example, every two to three days) or slowly (for example, every three to four weeks) and avoid weekly/fortnightly rotating shift schedules.
- If not strictly necessary for business needs, try to avoid early morning starts before 7am.
- Where possible, arrange shift start/end times to be convenient for public transport or consider providing transport for workers on particular shifts.
- Limit shifts to a maximum of 12 hours (including overtime) and consider the needs of vulnerable workers.
- Limit night shifts or shifts where work is demanding, monotonous, dangerous and /or safety critical to eight hours.
- Consider if shifts of variable length or flexible start/end times could offer a suitable compromise.
- Avoid split shifts.
- Encourage and promote the benefit of regular breaks away from the workstation.
- Where possible allow workers some discretion over when they take a break, but discourage workers from saving up their break time in order to leave earlier.
- In general, limit consecutive working days to a maximum of five to seven days and make sure there is adequate rest time between successive shifts.
- Where shifts are long (over eight hours), for night shifts and for shifts with early morning starts, it may be better to set a limit of two to three consecutive shifts.
- When switching from day to night shifts or vice versa, allow workers a minimum of two nights’ full sleep.
- Build regular free weekends into shift schedules.

Sources: Adapted from Health and Safety Executive (2006); Rudd and Wilkinson (2011)

### Shift duration – 12-hour versus eight-hour shifts

There has been much debate over the benefits and risks of eight hour shifts versus 12-hour shifts both within nursing and occupations outside health care. Evidence on the impacts on patient outcomes and staff safety are often conflicting. The Working Time Regulations (WTR) are not specific on the length of a shift, but generally require workers to have an 11-hour rest period between working days. The HSE points out that for the first eight or nine hours in a shift, the accident risk is constant, but after 12 hours, the risk approximately doubles and after 16 hours, it trebles (HSE, 2012b). Most of the research on accidents and working hours has been carried out in other industries where it is easier to measure the impact on productivity and errors, for example, counting the number of defective widgets per hour. However, working long hours clearly has the potential to impact on patient and staff safety in health care environments as we know fatigue can lead to slower reaction times, decreased vigilance, impaired problem solving ability and can affect memory and communication.

RCN member surveys have found that the majority of staff prefer 12-hour shifts, as they need to do fewer shifts and have more days off (RCN, 2009). The HSE also confirms that 12-hour shifts are popular as these make the working week shorter and may offer subsequent health and social benefits. However, the HSE also highlights that any benefits to health and wellbeing are likely to be lost if the worker takes on overtime or a second job during their free time (HSE, 2006).

The HSE advises caution in introducing shifts that are longer than eight hours in environments where the work is demanding, safety-critical or monotonous, and/or there is exposure to work-related physical or chemical hazards, pointing out that fatigue is a risk towards the end of the shift. If 12-hour shifts are to be introduced, the HSE recommends regular in-work rest breaks and a limit on 12-hour night shifts to two to three consecutive nights.

**Health care workers who have more than one job and choose to regularly work more than 48 hours a week need to check what their employment contract/s says on working hours and ensure that they have signed an opt-out agreement so the employer/s can monitor hours of work under the WTR. Nurses also need to be vigilant of the impact of fatigue on their professional practice (see the NMC code, page 21). This may also mean that the employer may prohibit additional shifts, if there is a concern about fatigue.**

An RCN survey (2008) found that 45 per cent of respondents worked 12-hour shifts so this is already a reality in many nursing environments. However, what is of concern is the amount of overtime, often unpaid across the nursing workforce, pushing a 12 hour shift into a 13 or 14 hour shift with a drive home at the end. Three quarters of all respondents to the latest RCN employment survey report working additional hours on at least one shift each week, and 40 per cent do so several times a week. The survey also shows that when nursing staff do work overtime, it is not just the odd hour here and there, in fact two thirds told us they usually work two or more hours a week (2011).

There is evidence that 12 hour shift systems are on the increase and concerns are that cost savings are the primary driver for introducing the system as opposed to improving patient safety and the health, safety and wellbeing of staff. Safety of patients and staff must be considered if 12 hour shifts are to be implemented. In addition to consultation with staff and their representatives on proposed changes to shift working patterns and risk assessing the proposals, the RCN suggests that the following safeguards are put in place:

- the shift should be no longer than 12 hours
- if a 12-hour shift system is to be introduced it should be limited to two to three days/nights in a row and be compliant with the WTR
- ensure that there are adequate rest breaks during the 12-hour shift and that there is sufficient cover for staff to take their rest breaks to reduce the risk of fatigue the *minimum legal requirement of a 20 minute minimum rest break allowance required under the WTR will not be enough during a 12-hour shift*
- ensure that there is adequate time for handover
- cost savings should not be the primary driver for introducing the system; the safety of patients and staff must be considered
- pilot new shift systems first and survey staff on their perceptions
- safe staff-to-patient ratios must be met
- shift systems should be closely monitored and reviewed
- avoid scheduling safety critical jobs (for example, drug rounds) towards the end of the shift when staff will be at risk of fatigue and errors
- shift systems should be closely monitored and reviewed as part of a risk assessment process
- consider the journeys staff have to travel to and from work and the impact that this can have on their safety
- consider the specific risks to staff that are peripatetic during the 12-hour shift and drive between sites/ patient's homes, particularly where the geographical area is large
- respect days off and do not call in staff to work on their scheduled days off
- improve the physical layout and working environment to remove some of the stressors that contribute to fatigue
- ensure access to hot food and drinks and rest areas
- consider making 12 hours optional and have other shift systems (for example, eight hours) alongside 12-hour shifts
- consider that some workers may be more vulnerable to the risks of 12-hour shifts than others – for example pregnant workers or those with long term conditions – and that further advice will need to be sought from occupational health providers
- consider methods of communicating and training staff on 12-hour shifts. Scheduling meetings or training at either end of a shift is not appropriate and can add to fatigue.

### Power napping during night shift breaks

In 2006, the Royal College of Physicians recommended that junior doctors working the night shift should take a power or restorative nap of between 20-45 minutes to reduce the risk of fatigue. The evidence-based guidelines state that a nap during the night is essential for maintaining vigilance and alertness.

Further studies have recommended power napping as having a positive effect on concentration levels and the speed of reflexes. A qualitative study of critical care nurses in Canada found that 10 out of 13 nurses who regularly napped during breaks reported several benefits including improved energy, mood, decision-making and vigilance. Researchers also identified organisational and environmental barriers to napping during breaks, including the perceptions of managers and colleagues and a lack of appropriate facilities (Fallis et al., 2011).

Employers need to consider the evidence base promoting the benefits of power napping and develop policies and appropriate resources to support power napping in nursing staff, including a suitable area/space in which to take the power nap. The following strategies need to be adopted to support restorative naps during breaks:

- they should be taken early, before the onset of fatigue
- an alarm should be set to ensure you don't sleep for more than 45 minutes and go into a deep sleep cycle where it will be more difficult to wake up or respond quickly to an emergency; some studies recommend a 20-minute sleep followed by a 15-20 minute recovery time before returning to work
- it is necessary to have dark surroundings
- it is better to lie down or at least recline
- blankets and pillows are required.

**Health care workers need to be aware of their local policies and should not sleep on night duty breaks unless they have prior permission to do so by their organisational policy or in writing from their manager or supervisor.**

## 4. Check and review arrangements

Monitoring and reviewing the effectiveness of risk reduction measures is an essential part of the risk management process. Organisations need to assess whether measures put in place are effective.

Table 3 provides some suggested measures for assessing the effectiveness of shift systems in different areas.

**Table 3: Assessment measures**

Indicator	Examples of performance measures
Fatigue	Use assessment tools, for example the HSE fatigue index.
Sleepiness at work	Use assessment tools such as the Epworth sleepiness scale.
Accidents, near misses and serious untoward incidents	Do records show a reduction in incidents?
Absenteeism	Do records show a decrease in absenteeism?
Staff turnover	Do records show a decrease in staff turnover?
Employee welfare	Use focus groups and interviews to determine if workers view shift working arrangements positively.
Performance and productivity	Have performance/productivity measures improved?  Patient-related complaints can also be used as an indicator.
Quality of work/life balance	Annual staff survey results.

## 4

## The role of safety representatives

Safety representatives have an important role to play in supporting members who work shifts and ensuring that any risk to the health and safety of shift working members are addressed and minimised by the employer.

The HSE stresses the importance of employers consulting and involving safety representatives in the risk assessment process and as a vehicle for getting the views of the workforce on the advantages and disadvantages of current shift systems. Working with safety representatives, the HSE suggest that employers seek views and stimulate discussion by:

- encouraging workers to share their experiences of shift work
- discuss which shifts are hardest and why
- provide examples of different shift work schedules and invite contributions of ideas.

If surveys or questionnaires are being used it is good practice to develop these with safety representatives, as staff may be suspicious if employers are asking questions around fatigue, sleepiness and health problems.

Any proposed changes to shift work patterns can be stressful for employees as many plan caring responsibilities and arrangements around their shift work.

**As reviews or changes to shift working patterns can affect members' terms and conditions, it is essential that safety representatives work alongside stewards, and that stewards recognise the important role that safety representatives have to play in the process.**

### Checklist for safety representatives

- Encourage members to share their experiences of shift work and represent their concerns in discussions with employers.
- Find out whether your employer has assessed the risk of shift-work patterns.
- Raise awareness of the risks by using RCN, HSE and other guidance.
- Ensure that your employer has identified vulnerable workers and supported accordingly.
- Ensure that you are involved in any review or proposed change to shift working.
- Check that proposed or current patterns are compliant with regulations and meet good practice recommendations.
- Ensure that fatigue-related risks to workers who drive at work are addressed by your employer.
- Ensure that employers have systems in place for supporting shift workers who are suffering from fatigue and have to drive home.
- Ensure that employers have systems in place to offer health checks to night-shift workers.
- Work with occupational health and others to promote and support members and other health care workers to develop strategies to cope with shift work.
- Work with stewards and other trade union colleagues to ensure that potential health and safety issues and risks are recognised and addressed.
- Encourage members to report fatigue-related incidents (including near misses).
- Encourage members to report and seek support from occupational health and their GP if they are suffering health problems that may be related to shift patterns.
- Investigate incidents or near misses affecting the health and safety of members (ideally this is done jointly with the employer, but safety representatives have a right to carry out an independent investigation).
- Encourage employers to identify times of day in reports on incident trends, and ensure that incident trends are reported to the health and safety committee.
- Ensure that fatigue is picked up as a potential factor in investigations around patient safety incidents.

## 5

## Practical strategies for shift workers

*It's 7am Saturday morning, you finish a busy night shift that included two arrests. You're developing a headache and feel nauseous as you last grabbed some food at midnight. On the way home, someone cuts across you on the road, nearly sending you into a crowded bus stop. As you pull into the drive, you remember that you forgot to mail an overdue credit card bill. You enter your home, trying to be quiet but you stumble over some toys in the hallway and the kids wake up and want to see you. Your partner wakes up and wants to spend some time with you...and there's the house to tidy up and the laundry to do. After all that, you crawl into bed and hope for some decent sleep, because you have to be back at work for another shift. Then the phone rings...we've all been there!*

This scenario may sound familiar to many nurses and health care workers who regularly work night shifts and have to wear many hats outside work. In this scenario there are many things that an employer could do to reduce risk, including ensuring there is enough cover for staff to take be able to take breaks and have access to healthy food, and that shift patterns follow good-practice guidelines and comply with the minimum requirements of the WTR.

However, there are a number of issues that the employer has limited control or influence over and there are strategies that an individual shift worker can follow to help themselves.

Night shift work can be a daunting experience for a newly-qualified nurse or health care assistant. There are usually fewer people around to call on and you may be the most senior nurse on duty. It is inevitable that you will feel more tired and sleep less than on daytime shifts, but with the support of colleagues and by following some simple do's and don'ts, you can make life easier for yourself.

People adapt differently to shift work and you need to find a sleep pattern and routine that suits you best – it may take some time and you may need to experiment to find out what works for you.

### Sleep hygiene

Sleep hygiene is defined as habits and practices that are conducive to sleeping well on a regular basis. It is important to get into good habits and practices, regardless of whether you are sleeping during the day or at nights. Keeping to a regular sleep schedule – in other words, going to bed at the same time and waking up the same time – is recommended as a way to promote good sleep. However, for obvious reasons, this can be difficult for a shift worker.

Examples of some sleep do's and don'ts are listed on page 18. Many of these are common sense, but if you are having difficulties sleeping it may be worth reviewing what you are doing at bedtime.

**Table 4: Sleep dos and don'ts**

Dos	Don'ts
Develop a bedtime ritual that you follow before you go to sleep – relax with a book, listen to music or take a bath. This can help serve as a signal that your body is ready for sleep.	Avoid stressful or stimulating activity before you go to bed.
Keep your bedroom as cool as possible – people sleep better in cooler environments (around 18 degrees C).	Avoid alcohol or nicotine in the hour or two before sleep. Alcohol might make you feel sleepy, but it will wake you up too quickly after falling asleep. Nicotine is a stimulant and may affect the time it takes you to get to sleep. Don't drink caffeine for up to four hours before going to bed.
Eat a light meal before going to bed to avoid hunger.	Avoid a heavy or fatty meal before bedtime as they are harder to digest.
Regular exercise during the day helps sleep patterns but try to avoid exercise about three hours before bedtime.	Avoid watching TV, video games, studying, playing or working on a computer in the bedroom. If you can't avoid this as you live in a bed sit or shared accommodation – think about having distinct areas in your room such as a desk which you can close off and a cupboard to store study material. Don't use another persons sleeping pills
Keep the bedroom dark – use an eye mask, blackout blinds or heavy curtains (or even a thick blanket) on your bedroom window. Even if you don't work nights it can get very light in the early mornings during British summertime.	Don't try and force yourself to sleep – sleep is a passive process. If you can't sleep, after 30 minutes in bed get up and do something to distract yourself. Avoid falling to sleep on the sofa.
Keep the bedroom quiet – use ear plugs if necessary.	Avoid clock watching – watching the clock can increase anxiety about length of sleep. Set your alarm if necessary and turn your clock away from your sight line.
Write a 'to do' list before you go into the bedroom so you don't lie awake worrying that you will forget important things the next day (a pen and paper by the bed can also help).	Avoid difficult conversations with loved ones or confrontational discussions before bedtime wherever possible.
Use a relaxation tape to help you sleep.	
Invest in a good mattress or at least some decent pillows – seek manufacturer's advice on the best type of pillow for you and your usual sleeping position.	

## Sleeping during the daytime

An essential aspect of being a successful night worker is learning how to manage your daytime sleep. The strategies outlined in Table 4 can help but there may be other things you can do to promote daytime sleep. These include:

- turn off mobile phones, disconnect landlines and consider putting up a 'do not disturb' notice on the bedroom door
- if at all possible locate your bedroom in a quieter part of the house (at the back of the house if you are located on a major road, for example)
- blackout blinds or thick curtains can really help reduce daytime light, while using ear plugs can reduce noise; background 'white noise' also helps some people

- ask family and friends at home to make sure it is a peaceful place during the day
- consider speaking to neighbours and let them know you work nights
- allow some time to unwind when returning home after a night shift (as you would after a day shift).
- try not to panic if you can't sleep – follow the strategies in Table 4.

If you are new to night-shift working, ask friends and family for their tips on coping but remember to stick to the principles of good sleep hygiene.

## Preparing for the first night

It is recommended that shift workers get extra sleep before working the first night shift to reduce sleep debt. If you don't sleep before your first shift you could end up being awake for 24 hours or more.

A longer lie in to at least midday the morning before you start is recommended as is a late afternoon nap of at least two hours or more to reduce the build up of fatigue on your night shift (Royal College of Physicians, 2006).

## Strategies to adopt during your shift

Night workers report that getting through the first night is usually easy but by the second or third night fatigue begins to set in particularly if you are having difficulties sleeping.

Here are some strategies to follow to help you survive during the shift (Ross, 2011).

- Some people find it good to eat their main meal before going onto the shift and having a lunch half way through their shift and another light meal when they get home, while others prefer to take lots of healthy snacks to eat. Eating small amounts and often throughout the night will help keep your energy levels up. Find out what works best for you but avoid a heavy meal before going to sleep.
- Keep moving during your shift – if you do have any downtime then walk about and stretch.
- Keep hydrated but don't drink too much caffeine – avoid caffeine towards the end of your shift as it can hinder sleep when you get home. The effects of a cup of coffee can start being felt within as little as 20 minutes and may last up to three or four hours depending on the strength of the drink and your individual tolerance. Too much coffee can also irritate the gastric system and have a diuretic affect. Remember it is not only coffee that contains caffeine; cola drinks, tea and some over-the-counter pain killers or cold remedies can also contain caffeine.
- Chat to co-workers - during down time keep your mind active by chatting to colleagues.

## Power napping and rest breaks

There is increasing evidence on the restorative and fatigue reducing benefits of a short 20–45 minute power nap during a night shift.

The RCN believes that power napping should be included in policies on shift working and with the right safeguards and resources in place, nurses and health care workers should be allowed to take a power nap as part of their break allowance. Shift working guidance for junior doctors allows for power naps and calls it an indispensable part of working safely overnight (Royal College of Physicians, 2006).

**However, as members have been disciplined for being asleep on duty, you are advised to seek advice from your manager or RCN safety representative on whether your local policy allows a powernap. You should always seek prior approval, preferably in writing, from your manager or supervisor before taking a power nap during your scheduled break.**

As a minimum, your employer should allow night-shift workers a 20 minute break away from the workstation if the shift is longer than six hours. Away from the workstation could mean a staff room or on-site rest area, but you may not be able to go off site. If you are unable to take your break away from the workstation during a night shift, then raise the issue with your manager or safety representative.

If an emergency has led to you being unable to take your break, your employer should provide you with compensatory rest as per the Working Time Regulations (see Appendix 2 on page 36).

## Circadian nadir

This is the time when your natural body clock is at its lowest between 3am and 6am. Night workers often associate this time with feeling cold, shaky and nauseous, as well as sleepy/drowsy.

This is a normal reaction and the body is programmed to be least active at this time and it can be difficult to stay awake especially if the work demands are low.

Eat or drink something warm (avoiding caffeine too late in the shift) during this period and try to keep busy. If you are able to, try and schedule a restorative power nap during this period.

## Getting home safely

The end of a night shift is recognised as a high-risk period for car accidents – particularly towards the end of a few back-to-back shifts. If you are dependent on a car to get you to and from work then be vigilant to the risks of fatigue. If you do feel yourself falling asleep at the wheel – pull off the road if it is safe to do so and have a short nap.

Avoid driving for a long period or a long distance after a period of night shifts or long-working hours. While it may be tempting to travel directly to visit family and friends and spend your days off with them, it would be advisable to have a rest or sleep first and travel later in the day.

If you feel too tired to drive then speak to your manager and see if a contingency plan can be put in place, such as giving you access to somewhere to sleep for a few hours or arranging a 'first aid' driver to take you home. Remember, your employer owes you a duty of care. If you can, it may be better to use public transport or consider lift sharing with co-workers and take it in turns to drive. Not only will this help reduce travel costs, it will also help keep you alert if someone else is in the car.

If you are starting or finishing work late at night make sure you can park your car in a secure and well-lit area. If you have concerns about your personal safety when travelling to and from work on a night shift or any unsocial hour, speak to your manager or an RCN safety representative.

## Coming off nights and back onto day shifts

Adjusting back to days can be difficult and it is important that your shift pattern allows enough time to recover from night shift work before going onto the next shift.

Have a short sleep when you get home from your last shift to get over some fatigue. Try and do normal daytime activities when you wake up and go to bed at your regular time that night to get back into a routine.

## Looking after your health

In addition to the tips for surviving the night shift and getting good sleep, it is important to try and look after your general health as shift workers can be more susceptible to illness and poor health.

**Psychosocial health** – working shifts that differ from family and friends can leave you feeling isolated. It is important to try and continue as much of a social and family life as possible and not to neglect your relationships.

- Make your family and friends aware of your shift schedule so that they can include you when planning social activities.
- Make the most of your time off – plan meal times, weekends and evenings together.
- Invite others who work similar shifts to join you in social activities when others are at work and there are fewer crowds.

Health and Safety Executive, 2006

**Healthy lifestyles** – shift workers can be more at risk from gastrointestinal complaints, diabetes and cardiovascular problems so a healthy diet and regular exercise are important. Lack of access to healthy foods during shift times or a lack of rest breaks can make this a challenge and employers also need to do more to support shift workers in making healthy lifestyle choices. Finding the time and motivation to exercise can be a challenge for shift workers but exercise can improve cardiovascular as well as mental health. Smoking can also increase the risk of heart disease and other health conditions in shift workers.

**Breast care** – it is important for female shift workers to be breast aware and if eligible for mammography screening to take up these opportunities.

**Use of stimulants/sedatives** – shift workers often use stimulants such as coffee, cigarettes, high energy drinks to keep them awake and alcohol or sleeping pills to help them sleep. However the effects of both stimulants and sedatives are only short term and can lead to the risk of dependence, addiction and physical health problems.

Avoid depending on stimulants and sedatives as a long-term strategy for dealing with shift work. If you are following good sleep hygiene routines and are still having difficulties staying awake or going off to sleep, seek medical advice.

Remember, if you work nights take the opportunity to have a voluntary health assessment by your occupational health provider.

Finally, let your GP know you work shifts so that they can be vigilant to any new or existing health problems that could be caused or made worse by work.

## What to do if things aren't working out

Tolerance to shift work differs but figures show that between 20-25 per cent of people reject and leave shift work at an early stage due to chronic ill health (Royal College of Nursing, 2008).

If you find it difficult to adjust or cope with shift work, your physical or mental health is being adversely affected or you are unable to adjust your sleeping patterns and are suffering from chronic fatigue, then you should seek advice and support. If you have an occupational health service they can be approached for advice. Counselling or employer assistance programme providers may also be a source of support if you are suffering from stress.

Your GP may also be able to offer advice or refer you on for specialist support or therapy, particularly if you have a sleep disorder. Sleeping tablets may be a short-term remedy but are rarely recommended over a long-time period.

If you have a long-term condition that is affected by shift work or need to take medication at certain times of the day you should also seek advice from your GP and occupational health service. Similarly, if you are pregnant and having difficulties coping with shift work you should seek advice from your GP or midwife.

## Professional responsibilities

While employers have legal responsibilities to protect the health and safety of you and patients, nurses also have duties under the NMC Code to manage risk (NMC, 2008).

Specifically you must:

- act without delay if you believe that you, a colleague or anyone else may be putting someone at risk
- inform someone in authority if you experience problems that prevent you working within this Code or other nationally agreed standards
- report your concerns in writing if problems in the environment of care are putting people at risk.

Issues such as an inability to take scheduled rest breaks, insufficient rest periods between shifts and pressure to carry out excessive overtime or stay on after the shift has ended are legitimate issues to act on and raise professional concerns about if these are resulting in fatigue, errors and subsequent risks to patient safety. If your concerns are not being addressed by your manager, you can also raise your concerns with the RCN, either locally through your safety representative or steward, or via RCN Direct on 0345 772 6100.

You should also consider the impact of multiple jobs and your working hours on your ability to practice safely.

## 6

## RCN recommendations

The RCN is calling on a range of stakeholders to do more to recognise the impact of shift work on the occupational health and safety of the nursing workforce. Listed below are a number of calls for action on the various stakeholders.

### Employers

- Employers need to treat shift work like any other workplace hazard and risk assess and manage the risks to staff and patients accordingly.
- Ensure that staffing levels and shift schedules allow staff to take regular breaks and leave work at the end of their allotted shift.
- Provide facilities to eat and access to healthy, warm food for night shift workers.
- Employers need to recognise the benefits of ‘power napping’ during night shifts and provide a policy and resources that allow nursing staff working a night shift to take a power nap.
- Organisations need to recognise that shift workers may have poorer health and more frequent absence than non-shift workers, and develop strategies that better support the health of shift workers.
- Employers must ensure that fatigue is a factor that is explored during investigations following patient safety incidents, such as drug errors.
- Employers need to be cognisant of the risks to shift workers driving home at the end of a shift and offer appropriate support; for example, arranging for a taxi home for those who have had to stay beyond their finishing time due to an emergency situation.
- There needs to be better recognition and management of the impact of shift work on vulnerable groups, including older workers.

### Employer representative bodies

- Bodies representing NHS and independent sector health care employers need to do more to raise awareness of the health and safety risks to both patient and staff of poorly managed shift work systems.

### Regulators and policy makers

- Advice on measures to reduce the risk of breast cancer for night shift workers is urgently needed from the HSE.
- Policy makers and regulators need to recognise that work conditions, including shift work, can act as a barrier to improving health and wellbeing.
- Public transport systems should cater for the increasing number of shift workers.
- Further recommendations need to be developed on shift working practice in older workers, including the cumulative effect of shift working.

### Governments

- Governments and devolved health bodies should include the health of shift workers in any work, promote the health and wellbeing of the health care workforce and recognise the challenges that shift workers may have in accessing opportunities to improve their health.

### Individuals

- Should be aware of the impact of fatigue on personal and patient safety.
- Take steps, as necessary, to ensure professional practice is not compromised.

### RCN

- RCN members to be supported to raise concerns on fatigue-related issues that affect themselves or patients.
- RCN stewards and safety representatives to work collaboratively on the issue of shift work.
- RCN advice on coping strategies to be disseminated widely to nursing students, HCAs, APs and other members.

### **Researchers**

- Further studies are needed to look at optimal shift patterns to protect both patient and staff.
- Further research into the impacts of shift work on older nurses.

### **Educators**

- Schools of nursing need to educate and increase awareness of the impacts of shift working on health, safety and wellbeing and provide advice on practical coping strategies to students.

### **Occupational health**

- Occupational health providers to do more to educate shift workers, their families and their employers on the health risks and promote coping strategies for shift workers especially those working nights.
- Occupational health providers to include breast awareness advice for night shift workers – for example during night shift health assessments.
- To ensure that shift workers have equal access to health promoting initiatives.

## 7

## References

- Bonde JP, Hansen J, Kolstad HA, Mikkelsen S, Olsen JH, Blask DE, Härmä M, Kjuus H, de Koning HJ, Olsen J, Møller M, Schernhammer ES, Stevens RG and Åkerstedt T (2012) Work at night and breast cancer – report on evidence-based options for preventive actions consensus report, *Scandinavian Journal of Work, Environment and Health*, 38 (4) pp.380-390.
- Costa G and Sartori S (2007) Ageing, working hours and work ability, *Ergonomics*, 50 (11), pp.1914-1930.
- Department for Transport (2010) *Fatigue risk management systems: a review of the literature*, London: Department for Transport.
- European Agency for Safety and Health at Work (2012) *Promoting active ageing in the workplace*, Bilbao: EU-OSHA. Available at <http://osha.europa.eu>
- Fallis WM, McMillan DE and Edwards MP (2011) Napping during night shift: practices, preferences, and perceptions of critical care and emergency department nurses, *Critical Care Nurse*, 31 (2), e1-11.
- Harrington JM (2001) Health effects of shift work and extended hours of work, *Occupational and Environmental Medicine*, 58, pp.68-72.
- Health and Safety Executive (2012a) *Human factors procedures*, Bootle: HSE. Available at [www.hse.gov.uk](http://www.hse.gov.uk)
- Health and Safety Executive (2012b) *Human factors fatigue*, Bootle: HSE. Available at [www.hse.gov.uk](http://www.hse.gov.uk)
- Health and Safety Executive (2006) *Managing Shift work: health and safety guidance*, Bootle: HSE.
- Health Service Journal (2005) The fatigue factor, *Health Service Journal*, 115 (5692), pp.34-35.
- London Chamber of Commerce and Industry (2004) *24/7 health effects: shift and night-working and employers guide*, London: London Chambers of Commerce and Industry.
- Monk TH and Folkard S (1992) *Making shift work tolerable*, London: Taylor Francis.
- National Patient Safety Agency (2004) *Seven steps to patient safety*, London: NPSA. Available at <http://www.nrls.npsa.nhs.uk/resources/?EntryId45=59787>.
- Nursing and Midwifery Council (2008) *The Code: standards of conduct, performance and ethics for nurses and midwives*, London: NMC. Available at [www.nmc-uk.org](http://www.nmc-uk.org)
- Ross B (2011) The first time: surviving the night shift, *Nursing Times*, 31 August 2011.
- Royal College of Nursing (2011) *Views from the frontline*, London: RCN. Available at [www.rcn.org.uk](http://www.rcn.org.uk)
- Royal College of Nursing (2009) *Past imperfect, future tense: nurses employment and morale in 2009*, London: RCN. Available at [www.rcn.org.uk](http://www.rcn.org.uk)
- Royal College of Nursing (2008) *Spinning plates – establishing a work-life balance: a guide for RCN representatives*, London: RCN. Available at [www.rcn.org.uk](http://www.rcn.org.uk)
- Royal College of Nursing (2005) *At breaking point? A survey of the wellbeing and working lives of nurses in 2005*, London: RCN. Available at [www.rcn.org.uk](http://www.rcn.org.uk)
- Royal College of Physicians (2006) *Working the night shift: preparation, survival and recovery*, London: RCP.
- Royal Society for the Prevention of Accidents (2011) *Driver fatigue and road accidents*, Birmingham: RoSPA.
- Wilkinson J and Rudd D (2011) Shift work: exhausted options, *Safety and Health Practitioner*, August 2011.

## 8

## Further information and resources

World Health Organization International Agency for Research on Cancer (2010) *IARC monographs on the evaluation of carcinogenic risks to humans, Volume 98: painting, fire fighting and shift work*, Lyon: WHO IARC. Available at <http://monographs.iarc.fr/ENG/Monographs/vol98/mono98.pdf>.

World Health Organization (2010) *WHO healthy workplace framework and model: background and supporting literature and practices*, Geneva: WHO. Available at [www.who.int](http://www.who.int)

### **The HSE Fatigue and Risk Index Tool**

A tool for evaluating the fatigue and risks associated with different shift patterns in safety critical industries. An electronic version of the Fatigue and Risk Index Tool can be accessed at [www.hse.gov.uk/research/rrpdf/rr446cal.xls](http://www.hse.gov.uk/research/rrpdf/rr446cal.xls)

### **The Epworth Sleepiness Scale**

Johns MW (1991) A new method for measuring daytime sleepiness: the Epworth sleepiness scale, *Sleep*, 14(6), pp.540-545.

Also see <http://epworthsleepinessscale.com>

The Young Foundation (2011) *Rough nights: the growing dangers of working at night*, London: The Young Foundation. Available at [www.youngfoundation.org](http://www.youngfoundation.org)

## Appendix 1

### HSE advice on reducing the risks of shift work

**Table 1: Workload**

Workload	Comments	Advice
Mental and physical demands	<p>Workers with an appropriate workload will be more efficient, effective and less fatigued than those who are overburdened or have too little to do.</p> <p>Concentration and productivity tend to decline towards the end of the shifts, following lunch and during the night and early hours of the morning.</p>	<p>When planning work, plan an appropriate workload, according to the length and the timing of the shift. If practical, schedule demanding work for periods when workers are most alert and least likely to be fatigued.</p> <p>Where possible, demanding, dangerous and/or safety-critical work should be avoided during the night and early hours of the morning and towards the end of long shifts. When work is particularly demanding, consider shortening the length of the shift.</p>

**Table 2: Work activity**

Work activity	Comments	Advice
Work activity	<p>Variation in work activity across a shift can help to relieve fatigue, especially where the worker has a range of tasks to complete, each with differing mental and physical demands.</p> <p>Rotating routine sedentary mental tasks with physical tasks can promote alertness or conversely help to relieve physical fatigue.</p>	<p>Where possible, schedule a variety of tasks into the shift plan and if practicable, allow workers some choice regarding their order of completion.</p>

**Table 3: Shift patterns**

Shift pattern	Comments	Advice
Permanent shifts	Regular shifts allow a worker to adjust to a shift schedule to a certain degree, although any adjustment of the internal body clock will be lost during rest days if they revert to a normal diurnal cycle. Permanent night workers and early morning workers run the risk of chronic sleep debt, fatigue, ill health and disruption of family and social life.	Permanent night shifts should be avoided where possible, although some workers and supervisors may find them desirable. Ensure staff, especially those who work permanent night shifts or early morning shifts are aware of the risks, through provision of training and information.
	Regular shifts allow workers to plan domestic and social activities. They are appealing to some workers but others may prefer the flexibility of rotating shifts.	If reasonably practicable, offer workers the choice between permanent and rotating shifts.
	Strong healthy bonds can be created within shift teams, but this may also encourage less healthy attitudes or behaviours to develop, which could lead to a team making bad or irrational decisions.	Ensure there is enough supervision of shifts to facilitate communication between workers and promote appropriate behaviour and rational decision making.
	There may be poor communication due to limited contact between different shift teams.	Improve communication at shift handover to ensure that new shift teams are fully aware of issues that have arisen during the previous shift.
Rotating shifts	Rotating shift schedules reduce the number of nights an individual has to work, as night work is shared between all workers. However, the constantly changing shift pattern means that workers may have difficulty adapting to the schedule. The direction and speed of rotation can influence how an individual adapts to rotating shifts.	
Forward versus backward rotation	There is limited evidence that the internal body clock adapts more quickly to forward-rotating schedules, e.g. those where the worker progresses from morning to afternoon to night shifts in a clockwise direction.	Adopting forward-rotating schedules rather than backward-rotating, may help reduce sleep loss and fatigue.
	Changes from an early shift to a later shift may result in reduced rest time compared to a backward-rotating schedule.	Ensure there is adequate rest time between shifts. Under the WTR, the minimum time allowed between shifts is 11 hours.
Fast rotation versus slow rotation	Fast rotation of shifts minimises disruption of the internal body clock and there is little to no adaptation to night shifts/early morning starts. Consequently direction of rotation may be less relevant for rapidly rotating shift schedules than for slowly rotating where there is some adjustment of the internal body clock.	Rotating shifts every two-three days is recommended, as the internal body clock does not adapt and sleep loss can be quickly recovered, reducing the risk of fatigue and ill health
	Weekly/fortnightly rotating shifts are the most disruptive schedule as the internal body clock starts to adapt and then has to reset itself as the shift changes.	Weekly/fortnightly rotating shift schedules are not recommended. Avoid these where possible.
	Slow rotation of shifts maximises adaptation of the internal body clock, although there is a risk of sleep loss and fatigue. Any adjustment of the internal body clock to nights/early starts will be lost during rest days.	If fast rotation is not possible, then slowly rotating shifts over at least a three-week period is the next best option.

**Table 4: Shift timing**

Shift timing	Comments	Advice
Night shifts	Night shifts disrupt the internal body clock and night workers are likely to suffer from sleep loss, poor quality sleep and fatigue, which may cause ill health. Fatigue may also increase the risk of errors and accidents, especially during the night, when people are less alert.	Only a limited number of workers can successfully adapt to night work. Try to find alternatives to night work for those workers who cannot adapt. Where possible, permanent night shifts should be avoided.
	Physically and/or mentally demanding or monotonous work will increase the risk of fatigue.	Consider the type of work being done and the workload. Where possible, avoid demanding, monotonous, dangerous and/or safety-critical work during the night and early hours of the morning.
	Night work increases the risk of ill health and disrupts family and social life.	Provide training and information about the risks of shift work for workers and their families. Make staff aware of sources of information and support, such as child care and counselling services. Under the WTR, night workers have a right to receive free health assessments.
	Working at night may limit access to training, development and workplace facilities such as staff restaurants, first aid and occupational health services.	Where reasonably practicable, provide similar facilities and opportunities for night workers as those available for your daytime workers.
Early morning starts	Although less disruptive than night work, early morning starts can also reduce sleep and increase the risk of fatigue and ill health. Commuting times and availability of public transport may contribute to the fatigue related to early starts.	Where early morning starts are not essential for business needs, avoid shift starts before 7am. Consider if providing transport to and from the workplace would be beneficial.
	Ability to sleep may be low in the early evening when the mind is alert and family and social commitments are competing. Loss of sleep may result in fatigue.	Provide training and information about the risks of shift work for workers and their families. Make staff aware of sources of information and support, such as child care and counselling services.
Afternoon starts	Risk of fatigue, ill health and accidents is lower than that from night as there is less disruption to the internal body clock. Performance does not appear to suffer unduly in comparison with day shifts.	Afternoon shifts are suitable for most workers and where practicable, you should adopt them in preference to night or early morning shifts.
	Workers who start work in the afternoon often sleep more than workers on other shift types. Afternoon starts can however reduce family and social contact.	Provide training and information about the risks of shift work for workers and their families. Make staff aware of sources of information and support such as childcare and counselling services.
Daytime starts	Preferred shift because it does not disrupt the internal body clock.	Where practicable, adopt day shifts rather than night or early morning shifts.

**Table 5: Shift duration**

Shift duration	Comments	Advice
8-hour shifts	Eight-hour shifts are considered to be the optimum length for sustained and consistent work. They allow more time for rest and completion of daily activities, but are generally less popular as there are fewer work-free days per week than with 12-hour shifts.	There are few differences in the effects of eight-hour and 12-hour shifts on workers and there are no clear advantages to either system. However, the nature of the work needs to be considered. Eight-hour shifts are preferable when work is monotonous, demands concentration or vigilance, is isolated, is safety critical and/or there is exposure to work-related physical or chemical hazards.
12-hour shifts	Twelve-hour shifts are popular as they make the working week shorter and may offer some advantages over eight-hour shifts in terms of sleep, health and wellbeing. The perceived social benefits can lead to workforces tending to choose such shift lengths and patterns. However, workers have a limited mental and physical resource, which is dependent on their current state of fatigue and the type and duration of the job they are doing. Fatigue, especially towards the end of a long shift or during the night may reduce productivity and increase the risk of accidents.	Avoid shifts that are longer than eight hours, where work is demanding, safety critical or monotonous and/or there is exposure to work-related physical or chemical hazards. Encourage and promote the benefit of frequent and regular breaks to reduce the risk of fatigue. Allow adequate recovery time between shifts and bear in mind that commuting times and availability of public transport may contribute to the fatigue related to long shifts. Limit 12-hour night shifts to two-three consecutive nights.
	Longer shifts may increase the risk of fatigue and ill health in vulnerable groups such as older workers and new and expectant mothers.	Consider the needs of vulnerable workers: arrange for these workers to do shorter shifts if necessary.
	Any advantages of twelve-hour shifts in terms of health and wellbeing are likely to be lost if workers take on overtime or second jobs during their free time.	Shifts should not be planned to be longer than 12 hours. Avoid overrun and discourage overtime. Monitor and control shift swapping. Make adequate arrangements to cover absentees. Discourage workers from taking second jobs. If this is a particular problem you could set this as a condition of employment in contracts of work.
	As fewer shift teams are required for a twelve-hour than for an eight-hour shift schedule it may be more difficult to arrange cover for illness, holidays, training and overtime.	Make adequate arrangements to cover absentees. Some companies include an extra shift in their rosters (usually days) to allow flexibility and time for training, development etc. Monitor and control shift swapping.
Shifts longer than 12 hours	Alertness and performance can significantly deteriorate over long shifts, which may increase the risk of errors and accidents.	Avoid shifts that are longer than 12 hours in length. Avoid overrun and discourage overtime. Monitor and control shift swapping. Make adequate arrangements to cover absentees. Discourage workers from taking second jobs.
Variable shift lengths	Variable shift lengths can give some of the free time benefits of longer workdays and may be less fatiguing. They are proving an increasingly popular compromise to the eight-hour versus twelve-hour debate.	Consider if shifts of variable duration and/or flexible start and end times could offer a suitable compromise for your organisation. Bear in mind that schedule design will be more complex and require more planning and organisation.
Split shifts	Split shifts, where an individual's daily work is divided into two or more shifts, are unpopular as they lengthen the working day. The risk of fatigue is increased if there is too short a break between shifts to warrant a return home.	If reasonably practicable, avoid split shifts, as they do not allow enough recovery time between shifts. If split shifts are necessary, ensure that suitable on-site catering and rest facilities are available.
	Early starts coupled with late finishes can result in fatigue, ill health and disruption of family and social life.	Ensure workers are aware of the risks of shift work, through provision of training and information.

**Table 6: Rest breaks between shifts**

Rest break between shifts	Comments	Advice
	The risk of fatigue-related problems is higher towards the end of a shift and also during the night. Frequent short breaks can reduce fatigue, improve productivity and may reduce the risk of errors and accidents, especially when the work is demanding or monotonous.	Encourage and promote the benefit of frequent and regular breaks to reduce the risk of fatigue. Under the WTR, workers are entitled to a 20-minute rest break if the working day is longer than six hours. But consider the length of the shift and the workload when planning the amount and length of breaks. A short break of 5-15 minutes every one-two hours may help maintain performance and reduce accidents, particularly when the work is demanding or monotonous.
	Depending on the nature of the work, allowing workers some choice about how long and how often their breaks are may reduce fatigue and increase productivity. For example, a worker may benefit from more frequent breaks towards the end of a shift as fatigue sets in. When work is machine-paced rather than self-paced, introduction of frequent pre-planned rest breaks may increase productivity and reduce fatigue.	If practicable, workers should be allowed some discretion over when they take a break from work. Ideally, workers should be allowed to rest before they experience fatigue. However, workers may not always act as the best judge of when a break is needed and should be strongly discouraged from saving up their rest time in order to leave earlier. Where the pace is out of the worker's control (eg machine/system paced), schedule frequent rest breaks in the shift plan.
	A short period of sleep of around 20 minutes has been advocated by some as a way of coping with fatigue, especially on long shifts and on night shifts. However, if workers sleep for longer periods than this they may wake up feeling unrefreshed and less alert. This may decrease productivity and increase the risk of errors and accidents. When they wake up, workers may experience a short period (up to 15 minutes) of impaired alertness.	Napping should be well supervised and only be used as a strategy in organisations where there is a high risk of involuntary sleeping, such as driving and night-time vigilance tasks. Do not adopt it in work environments where important decisions, especially safety-critical decisions, could be clouded by sleepiness. If napping is adopted, appropriate facilities should be provided with scheduled breaks of around 40 minutes to allow workers sufficient time to have a short nap, refresh themselves and regain alertness before resuming work.
	A break taken away from the work station and/or work environment is considered to be more beneficial than those taken at the workstation.	Make facilities available and encourage workers to take their longer breaks away from their workstation.

**Table 7: Rest breaks between shifts**

Rest breaks between shifts	Comments	Advice
Rest periods between consecutive shifts	The risk of fatigue-related problems including ill health, errors and accidents increases when the break between the end of one shift and the start of the next shift is too short.	Workers need sufficient time between shifts to commute, eat meals, sleep and participate in domestic and social activities. Under WTR, the minimum time allowed between shifts is 11 hours.
Rest days	Too many consecutive work days can lead to an accumulation of fatigue and increase the risk of fatigue-related problems including ill health, errors and accidents. Sleep loss and fatigue can also build up if there are too many successive night shifts and/or early morning starts. The optimal number of successive workdays is unclear, as it depends on a number of factors including the shift pattern, the workload and the workplace environment.	In general, a limit of five-seven consecutive working days should be set for standard (ie seven-eight hour) shifts. Where shifts are longer than this, for night shifts and for shifts with early morning starts it may be better to set a limit of two-three consecutive shifts, followed by two-three rest days to allow workers to recover.
	If there are a large number of rest days between successive shift schedules, lack of communication between workers and loss of familiarity with the work may increase the risk of errors and/or accidents.	Consider if regular refresher training in complex procedures and time allowed for refamiliarisation/updating would help when there are extended rest periods (including holidays) between successive shifts.
	Rest days are best when they allow the worker to recover from a work schedule, take part in social and domestic activities and if required, enable them to adjust to a new work schedule.	Under WTR, workers are entitled to a 24-hour day off per week, although days off may be averaged over a fortnight. When switching from day to night shifts or vice versa, make provision to allow workers a minimum of two nights of full sleep to enable them to adjust to the new schedule.
	Having free weekends is traditionally important to workers for social and domestic activities.	Where possible, regular weekend breaks should be built into the shift schedule.

**Table 8: Physical environment**

Physical environment	Comments	Advice
Facilities	Shift working can isolate workers and prevent access to daytime workplace facilities such as staff restaurants, first aid, occupational health services, information and training.	Where reasonably practicable, provide similar facilities and opportunities for shift workers as those available for your daytime workers. Where this is not possible, it is important to make provision for workers to make a drink and heat up food and to allow workers to take their longer/meal breaks away from their workstation. First aid facilities, and if possible, a trained first aider should be made available for all shifts.
Lighting	Workplace lighting levels should be good enough to enable people to work, use workplace facilities and move from place to place in safety and to complete their tasks without the risk of eyestrain.	You should take into account the extent of natural lighting, the reflective properties of the surrounding area and the work materials, the nature of tasks being undertaken and the age of the workforce when you consider workplace lighting. A combination of direct and indirect lighting (eg uplighting) will help reduce glare and areas of shadow.
	Bright lights (> 6000 lux) have been shown to trigger changes in the internal body clock, which in turn may aid adaptation to night work by increasing alertness and reducing sleepiness.	The practical application of bright light exposure to shift-work schedules is a complicated area. As yet it is relatively untried, and may require considerable resource. Seek specialist advice when considering this as a means of increasing alertness.
Temperature	The Workplace (Health, Safety and Welfare) Regulations 1992 (as amended) lay down requirements for temperature in indoor workplaces. The associated Approved Code of Practice (ACOP) states that the temperature in work rooms should provide reasonable comfort without the need for special clothing. The minimum temperature should be at least 16°C or 13°C if the work involves severe physical effort. A maximum temperature for work rooms is not specified. In addition to air temperature, the degree of ventilation, humidity and location of radiant heat sources will all affect the degree of comfort felt by workers.	Monitor workplace temperature on a regular basis to determine if adjustments to the heating supply need to be made for particular shifts. For example, during the night, heating may need to be increased to compensate for the drop in body temperature, however, a warm, stuffy atmosphere can cause drowsiness. Allow workers control of local heating arrangements. Where maintaining a comfortable temperature is impractical, take all reasonable steps to achieve a temperature which is as comfortable as possible. These may include providing localised heating/cooling devices, appropriate clothing and provision of rest facilities.

**Table 9: Management issues**

Management issues	Comments	Advice
Supervision	Under the Health and Safety at Work Act, employers must provide supervision as far as is reasonably practicable to ensure the health and safety at work of their employees. Good supervision of workers is vital for identifying potential hazards and ensuring compliance with health and safety rules. Employers should ensure that people responsible for shift-working arrangements, especially those in self-managed teams, have the competence and opportunity needed to fulfil this role. Supervisors can also play a key role in recognising problems associated with shift-working arrangements and identifying employees at risk of shift work-related problems.	Consider if increased supervision would be beneficial during key periods of low alertness, eg during the night and early hours of the morning, following lunch and towards the end of long shifts. Ensure supervisors are aware of the risks of shift work, through provision of training and information. Ensure that they are sufficiently trained to recognise the symptoms of fatigue, which may indicate that a worker is failing to cope with their current shift-work schedule or that there are general problems with the shift-working arrangements.
Overtime	Overtime, especially when following long shifts, is likely to increase the risk of fatigue-related problems including ill health, errors and accidents. Under-staffing, lack of flexibility for illness/absence cover, plant shutdown, pay incentives or personal convenience can lead workers to work extended hours and ignore recommended shift-work practice.	Where possible, avoid overtime by establishing systems to provide relief staff to cover absentees, vacancies, increased workloads and emergencies. If overtime is unavoidable, review a worker's preceding work and rest periods before agreeing to it. You should also monitor and record the hours that individuals have worked to identify where action should be taken to avoid excessive working hours. This is especially important when an individual has opted out of WTR, in workplaces where shift swapping is permitted and during exceptional circumstances such as emergency workers attending an incident.
Shift swapping	Uncontrolled shift swapping may increase the risk of fatigue-related problems including ill health, errors and accidents, especially if workers do double shifts or do not have enough time to rest between shifts.	Shift swapping should be monitored and recorded by supervisors. It is important to review a worker's scheduled work and rest periods before agreeing to a swap to avoid excessive hours being worked.
Standby and on-call duties	Workers who carry out standby and on-call duties have not entirely finished work and its related stresses, and whether actually called out or not, may experience disrupted and/or poor quality sleep and an accumulation of fatigue. Workers may be at risk of fatigue-related problems including ill health, errors and accidents if they are called into work, or have to remain at work following a shift.	Under WTR, periods when workers carrying out standby and on-call duties are required to be at the workplace, whether working or not, is considered working time. Make provision in the work schedule to allow adequate rest for those workers carrying out standby/on-call duties. Ensure workers are aware of the risks associated with fatigue through provision of training and information.
Training and information	Training and information relating to shift work for shift workers and their families will increase understanding of the consequences of shift work and help workers to recognise fatigue-related problems and develop coping strategies. This may reduce fatigue-related ill health, improve productivity and reduce the risks of errors and accidents. However, training should not be relied on as the primary means of controlling risks from shift work. Ideally, training should complement other controls that have been put in place, such as improvements to the shift-work schedule and the workplace environment.	Tailored training and/or information regarding the risks associated with shift work should be available for workers, their families, their supervisors, safety representatives and management. Make workers aware of the potential impact fatigue may have on safety, health and wellbeing. Encourage workers to report shift work-related problems they may have and consider any suggestions workers make in relation to improving the shift-working arrangements. Encourage workers to take responsibility for their welfare outside work and promote the use of appropriate coping strategies to help workers and their families to adapt to shift work.
	Access to daytime training sessions may be limited, especially for those on permanent night shifts.	If possible, arrange/adapt training sessions to the shift pattern rather than restricting it to daytime hours. Alternatively, ensure that workers are given compensatory time off if they have to attend training during rest periods by establishing a system to provide relief staff when required. To help this, some companies include extra shifts in their rosters (usually on days) to allow flexibility and time for training and development.

**Table 9 continued: Management issues**

Management issues	Comments	Advice
Communication	<p>Communication between workers can help to promote alertness, reduce the risk of errors and accidents and help prevent feelings of isolation.</p>	<p>Encourage interaction and if possible arrange for employees to work together or in teams. If an employee must work alone, encourage them to make contact with other workers at regular intervals. If they are located remotely then contact can be provided by telephone or similar communications devices. In case of emergency, provide an alarm or other communication device. Ensure information on workplace issues is made available to all staff.</p>
	<p>Handover of accurate, reliable information across shift changes is essential to ensure continuity of safe and effective working. Poor communication at shift handover may increase the risk of errors and accidents, particularly:</p> <ul style="list-style-type: none"> <li>• during plant maintenance</li> <li>• when safety systems have been over-ridden</li> <li>• during abnormal operations</li> <li>• following lengthy absences from work</li> <li>• when handovers are between experienced and inexperienced staff.</li> </ul> <p>Adopting longer shifts can improve communication between successive shifts, as there are fewer handovers, however, this may be counterbalanced by an increased risk of fatigue-related problems and by the effects of extended rest periods on familiarity and skills.</p>	<p>Agree on, and make sure timing and procedures for transmitting information to the next shift team are clear, available to all staff and followed at all times.</p> <p>Avoid extending shifts by good planning of the handover, eg by building in a small overlap between start and finish times on consecutive shifts.</p> <p>Ideally, shift handovers should be conducted face-to-face and be two-way, with all participants taking responsibility for ensuring accurate communication, using both verbal and written means, be based on a pre-determined analysis of the information needs of incoming staff and be given as much time as necessary to ensure clear and accurate communication.</p>

**Table 10: Welfare**

Welfare	Comments	Advice
Occupational health	A number of ill-health effects, including gastro-intestinal problems, cardiovascular disease, reproductive problems and increased susceptibility to minor illnesses have been associated with shift work.	Encourage workers to inform their doctor about their working arrangements, as this may help early diagnosis of any shift work-related ill health. Consider if alternative work is available for workers who have difficulties adapting to shift work or develop shift work-related health problems. This is particularly important for groups such as ageing workers and new and expectant mothers who might be more vulnerable to the risks of shift working.
	A fit and healthy workforce will be more resistant to stress and illness and may find it easier to adapt to shift work.	Promote healthy living strategies like increasing exercise and improving diet.
	Under WTR, employers are required to ensure that workers are fit for night work and must offer a free health assessment to anyone who is about to start working nights and to all night workers on a regular basis.	Employers should seek specialist advice from a suitably qualified health care professional, when devising and assessing the results of health assessments. If a worker suffers from health problems that are caused or made worse by night work, you should, where possible, transfer them to day work.
Lone working/ violence	Shift workers, especially those who work alone or unsociable hours may be vulnerable to violence.	Employers should take steps to make sure that the workplace and its surroundings are well lit, safe and secure. Consider if shift start and end times can be adjusted to fit in with the availability of public transport. If not, consider providing transport to and from the workplace.  Promote car sharing and ensure car parks and entrances are well lit and secure. Encourage communication between workers and ensure all, especially those who work alone, have access to telephones and alarm systems.  Consider if you need to install security cameras and/or provide security staff.

## Appendix 2

### Working Time Regulations

The Working Time Regulations, which are the UK implementation of the European Working Time Directive, came into effect on 1 October 1998. This European law seeks to protect the health and safety of workers by reducing the health and safety risks associated with long working hours and lack of rest periods during and between shifts.

The regulations are complex to both understand and to implement as there are a number of aspects where the regulations can be varied through agreement. This guidance should not be read as an authoritative statement of law as case law is evolving and will help with the further interpretation of the regulations. What's more, the results of ongoing negotiations between European employer and employee representative bodies may result in further changes to the directive and regulations.

The most up to date information on the regulations can be found at the Government website at [www.direct.gov.uk](http://www.direct.gov.uk)

### Your questions answered

#### 1. Do the Working Time Regulations apply to me?

*The regulations apply to individuals who have a contract of employment and to temporary staff. Nurses have been covered by the Working Time Regulations since the regulations came into force in 1998. In 2009 the regulations were fully applicable to junior doctors' working hours.*

#### 2. How does the 48 hour average weekly maximum apply to school nurses?

*An employer is required to take all reasonable steps to ensure that workers do not work more than an average of 48 hours per week over a 17 week period. Although the standard reference period for averaging out is 17 weeks, there is the possibility of extending this to 26 weeks. The 48 hour limit applies except where an individual chooses to work more than this limit. Each employer must take reasonable steps to ensure that if the employee is also working for another employer, the total working time does not exceed 48 hours.*

#### 3. What is counted as working time?

*Working time is defined as when the employee is working, at their employer's disposal and carrying out their activity or duties. In early 2000, the European Court of Justice held that time spent on-call at the workplace is classified as working time (even where the worker is resting or sleeping). Time when you are on call away from the workplace **is not** counted as working time. However, where a worker is called out to respond to an emergency and are unable to take their daily rest entitlements, they are subject to the requirements of compensatory rest (see Question 9 for further information).*

#### 4. What rest breaks am I entitled to?

You are entitled to:

- *a rest break of at least 20 minutes if the working day is longer than 6 hours. This is to be taken away from the workstation. The regulations are silent on whether this is paid time but the RCN recommends that the break should be paid*
- *an uninterrupted rest break of at least 11 hours in every 24-hour period*
- *a rest period of not less than 24 hours in each seven-day period. This could be taken as one break of 48 hours in 14 days.*

*There are some circumstances where entitlement to rest breaks may vary (see Question 9 for further information).*

#### 5. Can I opt out of the 48-hour average weekly maximum limit?

*Yes, as an individual you can opt out of the 48-hour limit. If you do so, there must be an agreement in writing with your employer with notice arrangements to bring the agreement to an end. However, nobody can be coerced into signing an opt-out agreement.*

#### 6. How does my employer know what hours I have worked?

*Reporting procedures for hours worked need to be in place so that employers can calculate the average weekly working hours. This can either be done as consecutive periods of 17 weeks or rolling periods. It will be important to record all time worked including times which should have been rest periods but which were unable to be used as rest, so that compensatory rest can be arranged.*

**7. Are there any restrictions on night work?**

A night worker's normal hours of work shall not exceed an average of eight hours in each 24-hour period. The hours are averaged out over a reference period of 17 weeks. A worker is also entitled to a free health assessment before commencing night work and at regular intervals thereafter. Details of the assessment are confidential to the worker but a simple fitness for work statement can be provided to the employer.

**8. What holiday am I entitled to?**

Under the regulations, full time workers are entitled to 28 days annual leave. Additional annual leave may be agreed as part of the employment contract. Part-time workers will be entitled to a pro-rata leave period. Paid public holidays are included in the 28 day entitlement.

**9. How can parts of the regulations be varied?**

The regulations identify some special cases which mean that certain parts of the regulations do not apply. One of these is "where the workers' activities involve the need for continuity of service or production as may be the case in relation to services relating to the reception, treatment or care provided by hospitals or similar establishments, residential institutions and prisons". The regulations subject to this qualification are length of night work, daily rest, weekly rest and the in-work break where the working day is longer than six hours. However these are all subject to the requirement to provide a period of compensatory rest. This means that where the actual provisions of these parts of the regulations are excluded, the employer must allow the employee to take an equivalent period of rest. The Government's website recommends that compensatory rest is taken during the same or following working day. In exceptional circumstances, if this is not possible the employer must provide other appropriate protection. If you feel that your work routine does not provide adequate rest then you should raise this with your employer.

**10. Can my employer impose changes which are different to the regulations?**

Where employees do not have their terms and conditions set by collective agreements, the regulations state that workforce agreements are to be used to agree modifications to the regulations. The employer can make the agreement with all the employees or arrange for the election of representatives who can negotiate on behalf of others. The regulations set out arrangements for these workforce agreements. The employer cannot therefore impose changes to the regulations as any change must be by way of an agreement.

**11. What can I do if I am not allowed to take the entitlements within the regulations?**

If you believe that you are being denied any of the entitlements due to you, as a member you should contact RCN Direct for further advice. If you need specific advice about your individual circumstance please contact RCN Direct on 0345 772 6100.

## Appendix 3

### Employment rights and changes to shift work patterns

An employer may not be allowed to change your shift pattern if this is written in your contract, so check this. However, your contract may allow your employer to impose changes to shifts if there is a business reason to do so and if there is no breach of contract.

If your employer seeks to alter your shift pattern:

- they should discuss it with you
- you should ask your employer to review the new shift systems after a period of time
- if the new changes would result in a loss of income and you have childcare needs, dependents or health issues they should discuss with you how they intend to solve these issues
- you may be entitled to pay protection for a period of time under your employer's 'organisational change' policy.

If, after the discussion, you refuse your new patterns of work, your employer could give you notice to terminate your existing contract and provide a new contract incorporating the new arrangements. If you feel that your employer is acting unreasonably or against local policy this is a potentially unfair dismissal from your old contract and a case might be taken to an employment tribunal.

If this happens to you, you should seek immediate advice from the RCN Direct on 0345 772 6100.

For NHS staff, if your employer wishes to change your patterns of work, they should give you at least four weeks' notice under Annex G 2 of the Agenda for Change terms and conditions.





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