• Is there a high acceptance of the working time? People who do not like the extended shift roster don’t make good shift-workers.

4. Avoid early starts for the morning shift (remembering travel time).

5. Design the rosters so that they are flexible.

6. Ensure adequate breaks between shifts when shifts change (e.g. 24 hours between the day shift and the afternoon shift).

7. Avoid rosters that require staff to work too many days in a row without a full day’s break. Provide breaks of two full days and some full weekends.

8. Avoid double-shifting.

9. Rotate shifts “forward” i.e. from morning to afternoon, to night, except in exceptional circumstances.

These suggestions are for “usual” shift-working. Shift-work, however, is carried out in such a wide range of circumstances that it is not possible to say that each of these suggestions should be followed everywhere. Following each suggestion by rote will not guarantee success, and each one should be considered in the overall context of the shift-working.

**Personal strategies for coping with shift-work**

A selection of personal strategies can assist people to cope with the demands of shift-work:

**Sleep**

Sleep loss and poor sleep are the two most important problems of working shifts. A quiet, darkened room, negotiations over lawnmowing with neighbours, understandings with children, and the use of an answerphone are some obvious strategies.

Snorers and those whose partners find them waking frequently (sleep apnoea) may benefit from referral to a sleep clinic.

**Avoid caffeine before going to sleep**

Don’t drink tea or coffee or cola (caffeine-containing) drinks for 4 hours before going to bed.

**Avoid alcohol and other recreational drugs**

Don’t drink or use drugs before going to bed — they may help in creating drowsiness but will interfere with the quality of sleep.

**Sleeping pills**

Don’t use sleeping pills, except as a very short-term measure in situations of special need.

**Exercise**

Don’t exercise before going to bed — it creates a state of wakefulness. Regular exercise will assist sleep quality and is excellent just after waking up to restore your alertness for work.

**Food**

Avoid large (or any fatty) meals before going to sleep. When on night shift eat food that will digest easily.

**Commuting**

Take care when driving to and from work. Accidents are more likely to happen to people driving home after night shift than after normal hours.

**Social**

Realise that your social life will need careful arranging when you are on shifts. Most people find that by 40 years of age they have left shift-work.

**Further information**

**Publications**

Stress and Fatigue — Their impact on health and safety in the workplace: Information for occupational health professionals, human resource practitioners and others. $20 (incl. GST) from any OSH branch office (see the Blue Pages at the front of your telephone directory).

Stress and Fatigue — Reducing their impact (companion leaflet).


**Other sources**

The advice in this pamphlet is a small fraction of what is available. Giving staff written advice is a good start, but many companies have found that their employees need help to work through the difficulties of shift-work. It has been shown that where these difficulties have been addressed openly and with concern for the wellbeing of people in mind, the operation of the shift schedule has been improved, with cost benefits for the company. Numbers of consultants offer services to assist employers.
Shift-work is a necessary part of modern life. Institutions like hospitals, ambulance services, the police, the transport industry and many factories could not function effectively without it. Shift-work, however, comes with a price — the effects of being awake when the cycle of days and nights tells us we should be asleep. This disruption of the circadian rhythm can lead to reduced alertness and so compromise health and safety.

Shift-work is a powerful cause of fatigue. It can combine with other physical, mental and emotional factors to leave a person tired, "drained" or exhausted — familiar feelings for us all. Laboratory experiments indicate, for example, that people who have gone without sleep for long enough are just as impaired as people who are over the legal limit for driving while impaired by alcohol. If people go without sleep for long enough it eventually becomes impossible to stop them taking microsleeps ("nodding off") of which they are quite unaware. The resulting impairment — being unable to carry on working safely because of fatigue — has significant effects on the workplace.

It threatens workplace health and safety, including any causes associated with working shifts. Impairment can arise from fatigue that occurs both at work and away from work and should be treated as a hazard. Employers are required to take all practicable steps to prevent harm occurring to employees. The Act requires employers to adopt a systematic approach to identifying, assessing and controlling hazards at work. Employees also have obligations. In this context employees should use opportunities for recuperation responsibly. They should also ensure that the personal life choices they make do not compromise their ability to do their work effectively.

Employers must ensure that the personal life choices of shift-workers do not compromise their ability to do their work effectively.

**Responsibilities under the Health and Safety in Employment Act 1992**

Employers are required to take all practicable steps to prevent harm occurring to employees. The Act requires employers to adopt a systematic approach to identifying, assessing and controlling hazards at work. An appropriate induction, with information and advice about shift-work is provided.

Minimising problems of shift-work through optimal roster design

Some suggestions for safe roster design factors are:

1. Keep nightwork to a minimum.
2. If people work at night, they are unlikely to adapt, so keep the number of same-shifts worked in a row as low as is reasonably possible — e.g. to a maximum of 3 or 4 in a row.
3. If extended hours (periods over 8 hours) are worked, the following questions need to be considered. • Is the work so physically or mentally demanding that extended hours (including back-to-back shifts) should not be worked? Is excessive overtime avoided? (Intense mental work, such as driving, or the physical work in a timber mill are not suitable for extended hours.)
• Is the roster system designed to prevent the accumulation of fatigue? Does the time between each shift allow for recovery from fatigue? Is a complete recovery after work possible?
• Are arrangements to cover absentees adequate? Surveys show that being called back to work at short notice is regarded as an extreme inconvenience.
• Are the working conditions as pleasant as possible? Poor lighting and ventilation in a control room will make concentration on the work more difficult.
• Are exposures to environmental loads and toxic substances within acceptable limits? Shifts longer than 8 hours mean increased exposure to loud noise or air contaminants, and less time for recovery.

### Medical consequences of shift-work

Shift-workers, particularly those on rotating shifts, have a higher rate of:

- Social difficulties (at home and work)
- Sick leave
- Visits to clinics at the work site (if there is one)
- Poorer health, including:
  1. Sleep problems;
  2. Stomach and bowel disorders;
  3. Heart and blood vessel disease, and possibly
  4. Low birth weight and pre-term births.

The extent to which these health consequences are the result of chronic sleep loss and circadian disruption is not known. A recent report from the United States suggested that habitual short sleepers are at increased risk of disease and early death.

### Lessening the impact of shift-work

Shift-work is a major issue for any company where it is worked. Negotiations over shift-work can consume a large amount of time, and are often the most vexing of all the negotiations between a company and its employees.

A number of factors have been identified as common to the successful implementation of shift-working. These focus on the entire context of the shift-working, rather than just the roster design. The Occupational Safety and Health Service (OSH) encourages employers to adopt an approach that follows these principles:

- Responsibility — a single manager has specific responsibility for shift-work management.
- Consultative decision-making, that includes workers and management, is promoted and used.
- The control of roster design and management is shifted to workers and shift teams.
- An appropriate induction, with information and advice about shift-work is provided.

- Equivalent facilities are provided for shift and day workers.

### Safety in Employment Act 1992

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