

# HOW TO MANAGE SHIFTWORK

## GUIDE

WORKCOVER NSW HEALTH AND SAFETY GUIDE

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# HOW TO MANAGE SHIFTWORK

## Hazards of shiftwork

Changes in the workplace such as job sharing, part-time work and more flexible work hours are indicators that shiftwork is on the increase. Industries such as airlines, hospitals and railways have long had round-the-clock operations and extended shopping hours are fast becoming commonplace. Research shows, however, that there are significant health and safety issues associated with shiftwork.

## The body clock

Human beings are day oriented. We are designed to work in the daytime and sleep at night. The internal body clock (circadian clock) is responsible for this. It causes a regular variation through 24 hours in different body and mental functions. This variation is referred to as the circadian rhythm. Body temperature, heart rate, blood pressure, respiration rate and adrenaline production, for example, normally rise during the day and fall at night. It is these changes which affect behaviour, alertness, reaction time and mental capacity of all people by varying degrees.

## Nightshift

Most people find it is difficult to adjust to night work. If people work by night and rest by day, their circadian rhythms are disturbed but they never completely change to the new pattern of work and sleep. A partial adjustment may occur over successive shifts but normal circadian rhythms are usually quickly re-established on days off. As well, some people are early risers who work best early in the day and slow down in the evening. Others are late to rise, slow to get going and often at their peak in the evening. Ten to 20 per cent of people who are early risers find it hardest to adjust to working at night.

## Sleep cycles

Sleep disruption is the most common problem for shiftworkers. A sleep cycle is usually about two hours shorter after working a night shift. A decrease in sleep length also affects those who start work before 7 am. Physiologically, in the early morning hours, the body is preparing for activity which is linked to an increase in alertness. People get their longest sleep when they go to sleep before midnight and their shortest when sleep begins in the morning.

## **On-the-job fatigue**

The level of tiredness increases with the number of hours worked and is more pronounced during the second half of a shift, especially between two and six in the morning. Another common problem experienced with sleep loss is a high level of sleepiness when awake. Many shiftworkers actually fall asleep briefly while working. These 'microsleeps' may last from seconds to three minutes and some shiftworkers may not be aware that they have nodded off. Increased feelings of fatigue and sleepiness at work may make it difficult for employees to maintain concentration. This has implications for workplace safety. Judgement is impaired and response time slowed. A recent Australian study which compared the effects of alcohol and sleep loss on work performance showed that shiftworkers who have had one sleepless night can be as great a workplace hazard as someone who has been drinking alcohol.

## **Health effects**

Shiftworkers and former shiftworkers show more signs of ill health than people on fixed day work. Health problems may appear after a short stint of shiftwork, or may be only apparent after some years. Common health problems often associated with shiftwork include:

*Gastro-intestinal complaints:* Body rhythms for digestive function are regulated for food to be eaten during the day. The digestive system is relatively inactive at night, causing problems with some foods which are tolerated well in the daytime. Digestive complaints are often aggravated by a higher intake of caffeinated drinks consumed at night to keep awake.

*Depression and other psychiatric disturbances:* These may be triggered or worsened by irregular sleep patterns and cumulative fatigue.

*Pregnancy:* Risks of shiftwork should be assessed.

*Age:* Shiftworkers may become intolerant of their work schedules when they reach their 40s and 50s, despite having done shiftwork successfully for many years. Older employees may also find it more difficult to switch from eight-hour to 12-hour shifts.

*Medicines for medical conditions:* The effectiveness of certain medicines follows the body clock so reversal of the sleep/wake pattern can interfere with the treatment of some diseases.

## **Managing shiftwork**

Adapting to shiftwork is easy for some people while others never adjust. Exercise and a well balanced diet will probably help any adjustment. Family understanding and cooperation can also reduce stress that seems to go with a shiftworker's lifestyle. If you do find it difficult to adjust to shiftwork, you should discuss the problem with your supervisor or manager, occupational health nurse or doctor or counsellor or employee advisory service. They may be able to help you find a solution.

## **Managing odd hours**

To avoid a build-up of fatigue while you are on night shift, you must get as close to your average amount of sleep as possible. The following hints may help:

- curtains with backing or blinds to reduce the light levels.
- sleeping in cool conditions helps in getting to and staying asleep. An air conditioner may help.
- reducing noise with heavy curtains and sound insulation on the doors and windows. The hum of an air conditioner may mask minor noises from the outside. Let close neighbours know when you will be sleeping in the daytime so they can avoid mowing or noisy car repairs.
- maintain a regular sleep schedule. A minimum of four hours sleep is desirable, but try to allow at least seven hours in bed. Rest without sleep is still beneficial for the body.
- try different sleep times in the daytime to find which suits best – straight after work, before the next night shift or part of both.
- try relaxing between work and bed. Some shiftworkers prefer to go straight to bed while others find it better to read or watch television first.
- don't get upset if you can't sleep straight away. Read the paper or watch television. Remember rest in itself is important.
- don't drink too much liquid before going to bed.
- avoid coffee in the last few hours prior to sleeping.
- alcohol, contrary to popular belief, does not promote sleep. Instead, it lowers the quality of sleep and overloads and stimulates the bladder.
- be cautious with the use of sleeping tablets. They may help for a few days but should not be used in the long term.
- heavy smokers have difficulties in going for long periods without a cigarette, especially during the day. Craving for a cigarette may wake you up. If you give up smoking you will sleep poorly until your body adjusts, but then your sleep will improve.

## **Other helpful hints**

- before your first night shift, have a short sleep of between one to four hours to help reduce sleepiness at work.
- when coming off night shifts into days off, have a short sleep on reaching home, and go to bed earlier that night. A good sleep at night is the quickest way of getting the body clock back to normal.
- don't take on any extra work that could reduce the time available for sleep, especially when you are on night shift.
- social life, particularly at weekends, should be organised so you still get adequate sleep.

## **You are what you eat**

The activity of the digestive system is reduced at night. Indigestion, heartburn and constipation may occur. Extra food eaten at night may be stored as fat rather than used up to provide energy. You might:

- try having two meals at the regular times and a light meal in the middle of the night shift.
- consider having the largest meal of the day after the day-sleep.
- take a meal at or before 1am. The effects of a meal may be to decrease alertness in the second part of the night shift, so it's better to eat before you become fatigued.

## **What to eat**

- light meals, high in carbohydrate, based on rice, pasta or bread, are easy to digest. Avoid meals heavy in calories or with a high fat content because they take longer to digest and may make you feel drowsy.
- snack on fresh fruit and milk products and avoid spicy and fried foods.
- limit the amount of coffee towards the end of your shift, as coffee can keep you awake when you are trying to sleep at home.

## **Life at home**

Just as your body follows a rhythm, so does your social and family life. Once again, the shiftworker is out of step. When you are awake, everyone else is sleeping; when you are at work, everyone else has free time. School age children may only see their shiftworking parents for short periods. Try to:

- talk with your family ahead of time about problems that result from shiftwork and look for solutions.
- adjust to the household routine where possible. Give your partner or children the opportunity of making suggestions about how you can fit into their activities.
- take pre-school children to a playgroup on the mornings before you sleep, or arrange with friends with small children to swap child minding duties on sleeping days.
- take over some household duties on days off. One of the advantages of shift work is you will be home during the day.

## **Planning your social life**

Normal social interactions with family and friends are so important people may cut down their sleep time so they can take part in customary social activities. This can affect work performance. When on shiftwork you should:

- plan to make the most of your time off. Let your friends know when you are free.
- use your free daytime when others are working for activities you like to do by yourself and do some of the jobs that might otherwise interfere with social occasions. See if there are others on shiftwork who will join you in daytime sport or other activity.

## **While at work**

Fatigue and sleepiness on the job are the major problems but fatigue after the shift is over is also important. Remember to:

- be particularly careful when driving home after the night shift. Never drive if you've worked a double shift.
- keep your mind active by listening to the radio.
- even in winter, be wary of using the car heater as you may become drowsy in a warm car.

## **Physical fitness**

General physical fitness is important:

- make an effort to increase your physical activity during leisure time.
- join a gym or sports club so you can make use of their facilities on your days off.
- if you are on regular medication (eg. insulin for diabetes) or have a chronic recurring illness such as asthma, see your doctor for advice before beginning shiftwork.
- adapting to shiftwork is easy for some; others never adjust. Using commonsense rules for diet and physical fitness will help. Family understanding and cooperation can also reduce the upsets that seem to go with a shiftworker's lifestyle.

## **Who to see for help**

If you find you are having difficulty adjusting to shiftwork, discuss the problems with:

- your supervisor or manager,
- your occupational health nurse or doctor, or
- your staff counsellor or employee advisory service.

They may help you find a solution.









Catalogue No. **WC00224** WorkCover Publications Hotline **1300 799 003**



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