

Managing the effects of shift work on health

The complexity of returning staff to workplaces and resuming full operations means employers are having to be more flexible and imaginative.

To enable work environments to be Covid-secure, this includes introducing additional controls and making necessary adjustments to reduce numbers of people in certain work spaces as well as changing the times at which people are in work.

One potential solution is “Where possible, [to] introduce shift working to limit the number of people in the workplace at any one time. This may also reduce the burden on public transport if your employees use it to travel to work.” (Health and Safety Executive, UK)

Shift work can introduce additional health, safety and wellbeing challenges. We explore some of these here and suggest ways you can ensure safe and healthy shift work.

Increased risk of illness or injury

During the coronavirus pandemic key workers, including those working in the healthcare, utility and transport sectors, have been not only the most exposed to Covid-19 but also more likely to suffer from health-related illness or sustain an injury as a result of shift work.

The UK’s Royal College of Nursing (RCN), for instance, has raised concerns about increased risks for healthcare workers working 12-hour shifts in critical care during the Covid-19 pandemic, including:

- increased time of exposure to patients with infection
- the potential for errors or safety lapses caused by fatigue
- physical demands of wearing PPE for long periods, which can result in potential heat stress
- errors when putting on and taking off PPE
- high levels of moving and handling activity when positioning patients

Learning from IOSH shift work research

Previous research funded by IOSH has indicated that shift workers in general who work night shifts are approximately 25 to 30 per cent more at risk of injury than those working day shifts.

Shift work can have a negative effect on sleep quality, quality of life, physical health, cognitive function and mental health. Together, these may have an impact on safety and health in the workplace.

IOSH’s research looked at three key areas: sleep and fatigue; psychological and mental health; and social isolation. The researchers made a series of recommendations for employees and employers that could offset the worst effects of shift work on health.

Individual employees should consider a mixture of common-sense lifestyle changes, while employers could make some practical changes to the working environment. These recommendations have been set out in the lists below.



Sleep and fatigue problems

Employees should try to...

- ✓ ensure family and friends know and understand their sleep hours and needs
- ✓ ensure they have a comfortable, quiet place to sleep during the day
- ✓ use air conditioning, telephone answering machine, foam ear-plugs, eye masks and blinds/curtains
- ✓ make time for relaxation before bed (e.g. reading, breathing exercises, muscle relaxation techniques)
- ✓ establish a sleep schedule to facilitate daytime sleeping
- ✓ read a book or listen to quiet music if they don’t fall asleep after an hour, or try again later in the day
- ✓ quit shift work by around age 40, which is when shift workers’ sleep problems get worse.

...but avoid

- ✗ caffeine, alcohol and large meals before going to sleep
- ✗ strenuous exercise before sleeping
- ✗ high energy intake on the night shift between midnight and 06.00

Employers should...

- ✓ consider length of breaks, and start and finish times
- ✓ allow adequate time between shifts for sleep and meal preparation
- ✓ schedule the most demanding work early in the shift when workers are most alert
- ✓ set a limit of five to seven shifts in a row, and two nights in a row
- ✓ avoid excessive overtime, split shifts and excessive 12-hour shifts
- ✓ rotate shifts forward (morning – afternoon – night)
- ✓ provide at least 48 hours between shift changes to allow the body to adjust
- ✓ provide brightly lit workplaces
- ✓ provide a room with facilities for workers to lie down and rest before and after a shift
- ✓ identify and treat workers with sleep disorders and transfer them to day work
- ✓ ensure regular health checks (including sleep evaluation), which should become more frequent from age 40 and for those working shifts for 10 years or more.

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Psychological and physical health

Employees should aim to...

- ✓ maintain a healthy lifestyle with exercise, regular meal times and good sleeping habits
- ✓ maintain a normal day and night pattern of food intake, dividing daily food into three roughly equal main meals. The higher the energy needs, the more frequent meals and snacks should be
- ✓ choose vegetables, salads, fruit, lean meat, poultry, fish, dairy products, grains, vegetable soups, wholegrain bread, boiled nuts, green tea
- ✓ have their meal in the middle of the day rather than during their shift (afternoon/evening shift workers)
- ✓ eat lightly throughout the shift, with a moderate breakfast (night workers)
- ✓ relax during meals and allow time for digestion
- ✓ drink lots of water
- ✓ prioritise tasks and tackle one at a time
- ✓ plan days off in advance if possible.

...but avoid

- ✗ 10 consecutive years of shift work
- ✗ sugary products like soft drinks, bakery items and sweets, and non-fibre carbohydrates like white bread
- ✗ foods high in fat and salt; using fast food and vending machines
- ✗ excessive use of antacids, tranquilisers and sleeping pills.

Employers should...

- ✓ provide regular meal breaks
- ✓ provide a 24-hour cafeteria where night workers can obtain a hot, nutritious meal and appropriate dining facilities
- ✓ give time off over weekends
- ✓ make facilities for social activities such as recreation and staff social gatherings
- ✓ offer exercise facilities on-site
- ✓ provide workshops and information sessions on stress management
- ✓ set up employee assistance programmes that include a mental health component
- ✓ provide day employment for workers who can't work shifts for medical reasons
- ✓ provide regular health checks for shift workers and transfer them to day work if required.

...and

- ✓ move people from shift work after 10 years of exposure
- ✓ plan shifts as far in advance as possible
- ✓ keep schedules flexible by allowing workers to trade shifts
- ✓ ensure demands on workers are reasonable
- ✓ maximise worker autonomy.



Social isolation

Employees should...

- ✓ use a calendar to schedule events and activities
- ✓ establish good communication skills
- ✓ socialise with other shift workers and their families, to minimise the disruption to social life from shift work
- ✓ plan family activities carefully, such as at least one daily meal
- ✓ keep in touch with partner and children daily
- ✓ set time aside for just you and your partner
- ✓ pay attention to physical fitness, to help adjust to the negative effects of shift work and help improve sleep quality and quantity
- ✓ practise stress reduction.

Employers could offer or provide...

- ✓ an on-site day-care facility
- ✓ 24-hour day-care solutions
- ✓ activities for employees' children, such as sponsoring sports teams
- ✓ transportation to events
- ✓ workshops on communication and conflict resolution
- ✓ hobby or interest groups in the workplace
- ✓ sponsorship for employee sports teams and leagues (for example, company football league).

Find out more about IOSH's shift work research at: www.iosh.com/shiftworkhealth

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