Shift work & your health
Prevent is a non-profit association in the field of work environment with the Confederation of Swedish Enterprise, the Swedish Trade Union Confederation (LO) and The Council for Negotiation and Co-operation (PTK) as principals.

Our task is to work together with our principals to share knowledge of work environment issues and to develop methods that can support every workplace in the routine management of the work environment.

Prevent strives to promote a safe, sound and healthy working life. For more information, visit www.prevent.se.

This material has been developed in cooperation with the Confederation of Swedish Enterprise, LO and PTK.
Working, eating and sleeping at times that disrupt our circadian rhythms can involve health risks. There are things that you and your company can do to minimise those risks.

To describe what you yourself can do when you work shifts we have put together this pamphlet which highlights some of the facts and advice from Prevent’s training programme, “Shift work and health”. The purpose of this training programme is to increase awareness of the impact shift work has on circadian rhythm, sleep and eating habits. This awareness can then easily be transferred to measures we can take in our daily lives to help us feel better in both the short and long term.

The pamphlet can also be used by management in guarding against health risks associated with shift work and creating a work environment that minimises those risks.

**Some of the advice is related directly to you:**
- How do I want to feel today?
- How do I want to feel in five years?

Other advice is related more directly to the workplace and common working environment. Here the responsibility lies on the employer – in cooperation with the employees. If we are to succeed in reducing the risks associated with shift work, both companies and individuals must do their share of the work.
How your health is affected

Shift work does not match our natural circadian rhythms. For example to be awake when you should be sleeping or eat when your body is telling you to fast may, in the long run, affect your health negatively.

Some people seem to handle disturbances in their daily rhythms better than others. But risks do increase, among others those for sleeping problems, weight problems, cardiovascular disease, gastrointestinal disorders, diabetes and raised blood fats. For that reason it’s important to take care of yourself. The strain on the body is even greater if the shift worker is already inactive, overweight or a smoker.

Because we aren’t made to eat at night our bodies find it difficult to process food. The body’s ability to regulate blood sugar is reduced at night and that carries with it the risk of type 2 diabetes. Our metabolism changes at night as well and eating then increases the risk of cardiovascular disease.

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<thead>
<tr>
<th>Those who handle shift work best have:</th>
<th>Those who handle shift work best are:</th>
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<tr>
<td>Regular meals during daytime.</td>
<td>Physically active.</td>
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<td>Normal weight.</td>
<td>Non-smokers.</td>
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<td>Good capacity for recuperating from stress.</td>
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THE EARLY SHIFT

Beginning work early in the morning often means a shorter night’s sleep and deterioration in sleep quality. It can be difficult to go to bed “too early” in the evening both for biological and social reasons, resulting often in fewer than 7-8 hours of sleep. Sleep quality can be degraded and sleep uneasy because you know you must get up early and so worry about oversleeping. Early in the morning your circadian rhythm has not yet reset to daytime. Fatigue may be evident. Performance is reduced and the risk of accident higher than during daytime.

It isn’t always easy to eat a good breakfast when you get up early. One idea is to simply have something to drink and eat breakfast later when you are fully awake and have begun to feel hungry. “Morning people” find it easier to work the early shift.

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<tr>
<th>The early shift can mean:</th>
<th>The early shift is:</th>
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<tr>
<td>Greater risk of an accident on the way to work and at the beginning of the shift.</td>
<td>Easier for “morning people” and the elderly.</td>
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<td>Less sleep and lower quality sleep.</td>
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THE AFTERNOON SHIFT
When work ends late in the evening it can take time to relax enough to feel sleepy and be able to go to bed. Avoid stressful activity after work, especially activities where performance and results are important. Try to do only what is relaxing for you.

Even if it is difficult to sleep, a good long night’s sleep is entirely possible. The afternoon shift is also good from a nutrition perspective. It is relatively easy to maintain a “normal” meal schedule.

The afternoon shift can mean:
- Difficulties relaxing after work.
- Too little sleep.
- Limits to social life.

Advice for better sleep after an afternoon shift
It is entirely natural to be wide awake and a bit worked up when you come home directly from work after an afternoon shift. A walk after work is relaxing and good for sleep. When you come home some relaxing activity is appropriate. You might, for example, read or watch TV. Something warm to drink or a warm shower may help. If you are hungry, have a small bite to eat. It is difficult to fall asleep if you are too hungry.

See that you get some daylight every day, preferably in the morning. Why not combine your light exposure with physical activity? Light stabilises our circadian rhythm and makes us more alert during the day as well as making sleep easier at night. Physical activity strengthens sleep.

Something to think about:
- Alcohol has a negative effect on sleep. Alcohol can make it easier to fall asleep, but on the other hand your sleep is more easily disturbed later in the night which affects sleep quality. In addition, alcohol has a negative impact on health and there is a day-after-effect that influences performance, for example driving.
THE NIGHT SHIFT
After a night shift sleeping hours are usually significantly shortened. It is possible to compensate with an afternoon nap if you are working the next night shift as well. On the other hand, if you have a few days off after a night shift and would like to return to a normal daily rhythm, you can omit the nap. Night shifts are easier for “night owls” and young people.

Whether or not you suffer from lack of sleep, your body and brain go into low gear for a couple of hours, somewhere around 3 – 5 A.M. During this period it is difficult to perform well. Reactions slow and wakefulness is low. The risk of accidents increases.

<table>
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<th>The night shift can mean:</th>
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<tr>
<td>Reduced sleep.</td>
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<td>Fatigue.</td>
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<td>Stomach problems cause by night eating habits.</td>
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<td>Limits to your social life</td>
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Eating at night
We are simply not designed to eat at night. But if you feel hungry during your night shift, you can of course eat something so that you feel well and have the energy to do a good job. Try to eat before midnight. Even better would be to eat just before your shift or just after it begins.

Eating at night can lead to problems with blood fat, blood sugar and — obesity. Avoid large portions; eat your main meals during the day and evening. Drinks like water, tea or coffee with milk may be necessary during a night shift.

A night meal might consist of soup or some breakfast food like porridge, a sandwich or an omelette. Eat foods that are easy to digest. Raw foods and beans should be avoided, as should sweets and fatty foods. Stomach pains are common for those who eat at night. The reason is that digestion,
absorption of nutrients and metabolism are all slower. The intestines work more slowly as well which makes gas problems common.

**The eating environment is important**
- Is it calm and not too noisy?
- Are the utensils and appliances you need to store, warm, prepare and eat your food available?
- Does the company you work for have a night canteen or some similar service?
- Is there a well thought out health policy for what kind of food is available for night workers?

**Advice for better sleep after a night shift**
Eating something before you go to sleep in the morning is a way of maintaining a “normal” eating pattern despite your working hours. Another reason to eat breakfast is that it is easier to sleep if you aren’t hungry. Hunger can cause you to wake earlier than you would otherwise. Your body requires carbohydrates in the morning after the night’s fast. Drinking less at breakfast can be wise as urine production picks up in the morning after having been on low during the night.

Few are lucky enough to be able to lie down in the morning and sleep those 7-8 hours that most of us need. For this reason a nap during late afternoon or in the evening may be a good idea.

Avoid too much direct sunlight in your eyes on your way home to sleep. Light wakes you up.

See to it that your bedroom is dark, cool and quiet.
DAYLIGHT

Daylight has an immediate effect on us, refreshing and reviving. Light helps us as well to adjust our circadian rhythms. To take advantage of these properties and use light well we need to be outdoors. Too little daylight can affect us by watering down our circadian rhythm so that we feel neither fully awake during the day nor truly sleepy at night.

Something to think about:

✶ Spending time outdoors in the morning makes us tired in the evenings and alert in the mornings.
✶ Spending time outdoors in the afternoon has basically the same effect but not as pronounced.
✶ Spending time outdoors during light evenings delays fatigue and we become more tired later in the evenings or at night.

If your night shift is over and you are working the next night shift avoid direct sunlight in your eyes on your way home. Wearing sunglasses is a good idea. The reason you should avoid morning light is that it immediately makes you more alert. (This is not good as you are on your way home to sleep.) Daylight resets your circadian rhythm to normal so that you are tired the following evening, just when it is time for you to go to work. Remember! Take off your sunglasses if you are driving and start to feel sleepy. Otherwise your fatigue can become a safety risk.

On the other hand, when you return home from your last night shift and want to reset your circadian rhythm, see to it that you get a lot of light.
WORK CAPACITY AND SAFETY ON THE NIGHT SHIFT

There are work tasks that are inappropriate for night shifts. Periods of extreme fatigue reduce working capacity and that results in increased risk of accidents, especially during early morning hours (around 3-5 A.M.). We react more slowly, our problem solving abilities decline, we are less able to take in new information and more likely to make mistakes than when we work during daytime. As the night shift progresses, wakefulness declines and work capacity suffers.

It is advantageous if work is relatively light with opportunities for unplanned breaks. Monotonous work increases the risk of micro sleep and should be avoided. In monitoring or surveillance tasks, it is appropriate to have at least two employees working in the room. Maintenance work which interferes with operations should be avoided in any case. Such tasks should be carried out during daytime if possible.

Heavy physical labour should be avoided during the final hours of night shifts. Such tasks leave workers far too awake in relationship to their capacity after a night shift. When these workers then sit down, they could easily fall asleep before reaching home, in the worst case behind the wheel.

It can be appropriate, one or more times per year, to go through those tasks which are carried out on the night shift.

- Which tasks are carried out at night?
- What routines are in place for these tasks?
- How do the assigned tasks for the day and night shift differ?
- Are there tasks that would be more suitable for the day shift?

Try to see to it that demanding work which requires high concentration is carried out during the daytime.
WHAT IS A GOOD SHIFT SCHEDULE?
The answer varies depending on whom one asks. A good shift schedule is about compromises between productivity, safety, health, recuperation, quality, social life and long term planning.

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<td>The morning shift should not start earlier than 6 A.M., but 6:30 or 7 A.M. would be even better.</td>
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<td>Enough rest between shifts.</td>
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<td>No extremely long shifts (over 12 hours).</td>
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<tr>
<td>Avoid extremely long periods off work and strive instead to distribute time off so that there aren’t too many “heavy” work shifts in a row.</td>
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<tr>
<td>Limit the number of night or morning shifts in a row to limit the sleep deprivation that occurs.</td>
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<td>Try for a clockwise shift rotation: morning, afternoon and night.</td>
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Coach training for occupational health service professionals, employers and employees

Shift work involves health risks. By increasing knowledge of and understanding for the connection between health and circadian rhythm, we can guard against poor health for shift workers.

Prevent has designed a two day coach training programme about shift work and health. This training programme provides both inspiration and information concerning shift work and what workers can do to counteract the negative impact on their own health.

The programme is suitable for, among others, occupational health service professionals (nurses, health pedagogues, ergonomists) employer representatives (production managers, HR staff) employee representatives (safety representatives/work environment representatives)

Read more at www.prevent.se
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