This report is not intended as a substitute for the medical advice of a physician. The reader should consult a physician about matters relating to his or her health and particularly with respect to any symptoms that may require diagnosis or attention by a health professional.
I. Causes of Shiftwork Hazard

A car is a machine that is designed to transport people and small goods in relatively temperate conditions and smooth roads. All of its systems are designed to support this function under those conditions.

If the car is required to operate in -40 C, in off-road conditions with three feet of snow, the various components of the car would be stressed because they are not designed to operate in these conditions. The car would only be able to operate in some limited way and may break down and not be able to function at all.

The same can be said of the human body. It is designed to work and play in certain environmental conditions, that is, in the day time when there is sunlight. And it is designed to rest and regenerate at night when it is dark. All of the body systems are designed to support these functions under these conditions.

When the body is put in a different environment, one where it must carry on its activities during the night when it is dark and sleep during the day when there is light, it is being asked to function under conditions for which it was not designed. This causes stress. The body may not be able to function as well or perhaps not be able to function at all.

**Shiftwork is a workplace hazard because it causes dysynchronization of body physiology.**
Think of a time when you flew to a destination 6 or 7 hours east or west of your home. You were probably very tired and needed a few days to adjust, both when you got to your destination and when you arrived home. This is understandable because of the time you spent travelling. But you also needed to adjust to the change in time because what would have been night at home had become daytime at your new destination.

Any kind of change causes our body to experience stress. If the changes are small or inconsequential, we can readily cope. As the magnitude or frequency of the changes increases, we experience more and more stress and cannot cope with the stress as easily. The effects become cumulative.

Tiring as a long distance trip may be, you may not do it often. Most shift workers, however, make these time changes once or twice a week.

Changing your schedule by 8 or 12 hours is exactly like flying to a time zone that is 8 or 12 hours different from the time at home. If you changed your schedule once or twice a year, your body could probably cope with the stress of the change quite readily. But frequent schedule changes that are not consistent with body rhythms cause a great deal of both physical and emotional stress on the body.

**Shiftwork is a hazard because of the stress and fatigue associated with on-going and frequent schedule rotations.**
Anyone who has been a shift worker for some time knows that there is a good deal of disruption to personal, family and social life. Shift work adds a whole other dimension to individual and family relationships. It generates stressors that compound those already existing as a matter of everyday life.

Shift workers are well aware of the family and holiday occasions they have had to miss and the times they missed their children’s games, tournaments, concerts and recitals. They may go for long periods of time without seeing their spouse, children or friends and often report feeling isolated from their families, friends and communities.

In addition, shift work compounds the issues and stresses of finding adequate child care. In most communities, overnight child care is simply not available and difficult to arrange for evenings and weekends. Even when spouses, friends and family are able to fill in, it is usually a juggling act to make sure all the times are covered.

**Shiftwork is a hazard because it disrupts family and personal relationships.**
II. Consequences of Shiftwork Hazard

a. For Shift Workers

Physiological dysynchronization and excessive stress on an on-going basis, such as that caused by shift work will, at the very least, cause mental and physical fatigue.

As exposure continues, the various systems of the body may break down and we may become ill. Shift workers frequently succumb to colds, flu’s and allergies and regularly experience indigestion, constipation or diarrhea.

The more serious kinds of diseases that shift workers are known to be prone to are heart disease, gastro-intestinal disease, cancer, auto-immune illnesses (eg. allergies, rheumatoid arthritis, thyroid dysfunction) and depression.

Shift workers may also have significantly shortened life spans compared to the general population.

The extent to which a shift worker may experience these consequences, however, is a function of how well adapted they are to shiftwork and what other mitigation measures are in place.

b. For Workplaces

Many shiftwork workplaces see

- decreased work performance and efficiency
- increased rate of injuries and accidents
- increased absenteeism and turnover
- increased healthcare costs
III. Mitigating Against Shiftwork Hazard

In a workplace where one is exposed to hazards such as chemicals or excessive noise, one can almost entirely eliminate the potential for harm by wearing appropriate safety equipment. Protecting against shift work hazard involves attention to a variety of factors.

a. Physiological Profile

Some workers may be protected by virtue of their Physiological Profile. They may possess more of the physiological characteristics that naturally predispose them to better withstand the rigors of shiftwork.

Determining this profile pre-employment can help an employee understand how they will be affected by shiftwork and what strategies would be helpful to ensure their well-being.

b. Personal Risk Factors

Shift workers who have conditions such as epilepsy or diabetes or have demanding family or life situations may find it more difficult to deal with the challenges of shiftwork.

An assessment of any factors which could affect one's capacity to manage the challenges of shiftwork would help to determine what strategies would be helpful to ensure their well-being.
c. Self-Care

Workers who undertake appropriate self-care measures can mitigate the risks of shiftwork. Unfortunately, many workers have little knowledge of what strategies are appropriate and how to apply them.

Self-care education can have a very positive effect and reduces the consequences of shift work. It is also helpful to extend this information to families so that they can better support the shiftworker.

d. Work Schedules

Shift schedules are one of the major factors contributing to shiftwork hazard. Shift lengths, cycles and rotations can vary greatly, but some schedules are known to reduce the risk of stress and fatigue and promote worker well-being.

Ensure that shift schedules follow best-practise principles while also meeting business and employee needs.

e. Work Conditions

Some workplaces are more stressful than others. Workplace conflict and difficult work conditions will exacerbate the stress associated with shiftwork.

A respectful and cooperative workplace that is adequately staffed and resourced will reduce additional stress so that workers can better manage the stress associated with shiftwork.
IV. Over-Exposure to Shiftwork Hazard

It is prudent to monitor shift workers to determine the extent to which they may be affected by shiftwork hazard. Symptoms of over-exposure include:

- Frequent acute or chronic physical illness
- Feeling overwhelmed or burnt-out
- Depression or anxiety
- Dependence on alcohol or other drugs to sleep or maintain alertness
- Excessive family tension or conflict
- Workplace conflict or frequent injuries

V. Recommended Measures for Over-Exposure to Shiftwork Hazard

A worker experiencing any of the above symptoms should be seen as soon as possible by a physician or occupational health and safety professional. They will likely need a short term sick or disability leave so their symptoms can be treated.

If a leave is not required they may need to be temporarily removed from a rotating shift work assignment. Note, however, that assignment to full-time day shift may not be the appropriate accommodation in all cases.
Once the worker is healthier, a shift work specialist or occupational health professional should review the shiftwork hazard mitigating factors with the worker to determine what factors need to be addressed so that appropriate strategies can be recommended to help the worker cope with the hazard in the future.

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**Want More Resources?**

**Print & e-Books**

*[Working ‘Round the Clock: A Survival Guide for Shift and Night Workers]*

*[Alert@Work: Keys to Managing Sleep and Fatigue in the Workplace]*

**Shiftwise Poster Series**

*[Chasing Success: exploring sleep issues in our]*

(Resources are available at [www.carolynschur.com/resources](http://www.carolynschur.com/resources))

(cont. on next page)
**Educational Seminars**

How to Be a Successful Shiftworker: strategies to help with sleeping, eating and family life (3 hrs.)

Managing 'Round the Clock (6 hrs.)

Schedule Clinic: learn about best practices (2 hrs) or develop schedule for your workplace

PowerUP! Learn how to overcome sleepiness and fatigue and promote alertness while at work or driving

ZZZ... Best You Can Be! Learn about sleep and why it matters

For presentation outlines: see [www.carolynschur.com/presentations](http://www.carolynschur.com/presentations).

To book a presentation for your workplace: email [schurgoode@sasktel.net](mailto:schurgoode@sasktel.net) with your name and ph. number.

**Free Webinar**

The Shiftwise Workplace: 5 Essential Management Considerations (Find this webinar at [https://schur-goode.thinkific.com](https://schur-goode.thinkific.com))

**Expert Advice**

What are your needs and goals? Call 1-866-975-1114 and let’s implement the solutions that will work for you.
Carolyn Schur helps leaders in shiftwork workplaces reduce absenteeism, injuries and healthcare costs and, thereby, lighten their load.

She has provided her expertise to organizations across Canada and the US and is known for the innovative, yet practical solutions that she offers.

Carolyn is also the author of four books about sleep, shiftwork and fatigue. She is frequently called upon by the media for expert comment and has contributed to a variety of professional and trade publications.

Find out more about Carolyn at www.carolynschur.com.