

Fatigue risk in the workplace

Fatigue is a common form of impairment in the workplace. Fatigue is normal. Most workers will be fatigued at some point on the job. Employers are responsible for managing the risk of harm at work when workers may be fatigued. This document provides an overview of fatigue, the risk it presents in the workplace, and what can be done about it.

What is fatigue?

Fatigue is a change in physiological state described as being tired or drowsy. Fatigue can diminish capacity for work or ability to function at the desired level.

Contributing factors

Insufficient quantity and quality of sleep are the two most common causes of fatigue.

Not getting enough sleep or having poor sleep can disrupt our natural, 24-hour sleep/wake cycle (known as a *circadian rhythm*). These disruptions can be driven by both work-related and non-work-related factors.

Work-related factors that can affect fatigue levels include the types of tasks workers carry out, the environment, and shift schedules, as shown in the following table.

Work-related factors that can affect fatigue

Task	Environment	Schedule
<ul style="list-style-type: none">• Repetitive• Strenuous• Boring• Sustained mental or physical effort• Complex	<ul style="list-style-type: none">• Temperature• Noise level• Light level• Vibration• Humidity• Low stimulation	<ul style="list-style-type: none">• Irregular hours• Extended hours• Night shifts• Shift rotation patterns• Back-to-back shifts• Overtime

Effects of fatigue

Fatigue directly affects a person's ability to carry out even simple tasks. Fatigue impairs the following mental and physical functions:

- Reaction time
- Alertness and vigilance
- Decision making
- Complex planning
- Information processing
- Memory and recall
- The ability to communicate effectively
- Concentration

The risk of fatigue in the workplace

Every workplace has hazards that can cause harm (e.g., injury, illness, or property damage). Fatigue can increase the potential for this harm and/or adverse outcomes.

Incidents occur more often on night shifts, during extended shifts, and when there are inadequate breaks. Research indicates the number of hours awake can be compared to blood alcohol content in terms of causing impairment. Studies report the following:

- 17 hours awake is equivalent to a blood alcohol content (BAC) of 0.05 — B.C.'s legal limit to operate a motor vehicle.
- 21 hours awake is equivalent to a BAC of 0.08 — Canada's legal limit.
- 24 to 25 hours awake is equivalent to a BAC of 0.10.

Who is most at risk?

Fatigue affects everyone, regardless of their levels of skill, knowledge, and training. Shift workers are at the highest risk because they may work at times when their bodies have the strongest drive to sleep.

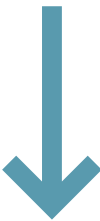
The body's circadian rhythm regulates when we feel sleepy or alert. The greatest drive for sleep generally occurs between 2 and 4 a.m. and from 1 to 3 p.m.

What can be done?

When dealing with fatigue in the workplace, **managing risk** involves three steps:

- 1 Identify hazardous workplace activities or tasks where being fatigued could increase the risk of harm.
- 2 Assess how fatigue may increase the risk of harm from the hazard.
- 3 Control the hazard by applying effective risk-control measures (ideally at the source of the hazard).

The table below shows how to effectively control workplace factors that influence fatigue. Use it as a guide to eliminate or reduce the risk of harm.

Most effective  Least effective	Task	Does the task need to be done? Can it be redesigned?
	Environment	Can aspects be improved (e.g., by reducing noise or temperature)?
	Scheduling	Can the task be carried out at a different time (e.g., outside of times when workers' drive for sleep is greatest)?

For more information

WorkSafeBC resources

For more information and resources about fatigue in the workplace, visit worksafebc.com/fatigue.

Questions?

Email humanfactors@worksafebc.com