

Managing the risk of fatigue in the workplace

Fatigue is a common form of impairment in the workplace. Fatigue is normal, so most workers will be fatigued on the job at some point. As an employer, you are responsible for managing the risk of harm (e.g., injuries and/or property damage) from hazards at work when workers may be fatigued. This resource provides an overview of fatigue, the risk it presents in the workplace, and what you can do to manage the risk.

What is fatigue?

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

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

This impairment can increase the risk of harm from hazards in the workplace.

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 cycle (known as a circadian rhythm) that regulates when we feel sleepy or alert.

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 table on the next page.

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• Inadequate breaks

The risk of fatigue in the workplace

Most workers will be fatigued on the job at some point, and fatigue can increase the potential for harm from hazards in the workplace.

Incidents occur more often on night shifts, during extended shifts, and when there are inadequate breaks (in terms of both quantity and quality). Research indicates the number of hours awake can be compared to blood alcohol content in terms of causing impairment. Being awake for 17 hours is roughly equivalent to having a blood alcohol content of 0.05, which is the legal limit for operating a motor vehicle in B.C. This impairment effect increases the longer a person is awake.

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, which is generally between 2 and 4 a.m. and between 1 and 3 p.m.

What you can do

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

Step 1: Identify workplace activities where being fatigued could increase the risk of harm.

Some examples of workplace activities where being fatigued could increase the risk of harm include:

- Driving
- Operating tools or machinery
- Performing calculations
- Working at heights
- Monitoring screens and/or displays
- Communicating detailed information
- Recalling information
- Making complex decisions

Activities such as these have task factors that can affect fatigue levels. For example, the activity may be repetitive or involve sustained mental or physical effort.

Work activities may also have environmental factors (such as temperature or noise level) and/or scheduling factors (such as shift work) that can combine with the task factors to further affect fatigue levels.

Start by identifying activities in your workplace in which being fatigued could increase the risk of harm.

Next, consider the task, environmental, and scheduling factors that affect fatigue levels. Examples of these work-related factors are shown in the table above.

Step 2: Determine how fatigue increases the risk of harm and who may be affected.

For each workplace activity, look at the following:

- How fatigue could increase the risk of harm
- Who may be affected

To determine how fatigue could increase the risk of harm, ask what could happen in each case. For example, if an equipment operator is fatigued, what could happen? Could the operator hit the wrong switch or miss a step?

Next, determine who would be affected (e.g., the operator, one or more co-workers, members of the public) as a result.

Step 3: Implement effective control measures to minimize the risk.

Implementing effective control measures involves eliminating the hazard (if possible) or redesigning the activities so they do not contribute to fatigue.

This also means effectively controlling the work-related factors that influence fatigue. The following table summarizes how to do this for each type of factor. Use it as a guide to eliminate or reduce the risk of harm. Start at the top of the table and develop options to effectively reduce the risks from the factors you've identified.

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)?

As you go through the three steps, gather information from the people who do the work, as they know the job best. Be sure to consult with the joint health and safety committee (or worker health and safety representative) as you consider and implement control measures. Deal with the most serious risks first.

Communicate, monitor, and update

Make sure everyone is aware of and trained in the control measures you've put in place.

Monitor the effectiveness of the control measures and improve those that are not working as intended.

Regularly review and update your process for managing the risk of fatigue in the workplace. This includes reviewing health and safety records and data (e.g., incidents, first aid reports, claims, hours-of-work records, safety meeting minutes, joint committee minutes, workplace inspection records). You can also use worker interviews and surveys to identify potential risk factors.

For more information

For more information and resources about fatigue in the workplace, visit worksafebc.com/fatigue. Questions? Email humanfactors@worksafebc.com.