

# Fatigue Awareness and Prevention

Fatigue is a hidden safety and health (S&H) workplace risk bringing the possibility of reduced employee productivity, increased possibility of unsafe incidents, and financial impacts to your organization.

According to the National Safety Council (NSC), a typical employer with 1,000 employees can expect to lose more than \$1 million per year due to fatigue. Organizations lose between \$1,200–\$3,100 per worker each year due to lost productivity from fatigued employees. You must understand how fatigue may impact your organization and the factors contributing to workplace fatigue so you can identify and manage this S&H risk.

**FATIGUE**  
Feelings of tiredness, sleepiness, and reduced energy, or increased effort is needed to perform tasks at a desired level

## EFFECTS OF FATIGUE

When an employee experiences fatigue, they experience a decrease in their ability to perform basic cognitive functions, which in turn, may lead to a decline in job performance **and** safety performance.

Figure 1 relates fatigue to alcohol consumption. Your cognitive function decreases the more hours you go without sleep. For example, when an employee has 19 hours without sleep, they experience a decline in function comparable to someone with a blood-alcohol concentration (BAC) of 0.05%.

These factors become especially concerning if your employees drive vehicles daily at your organization. The NSC also reports fatigued drivers are **3 times** more likely to be in a wreck.

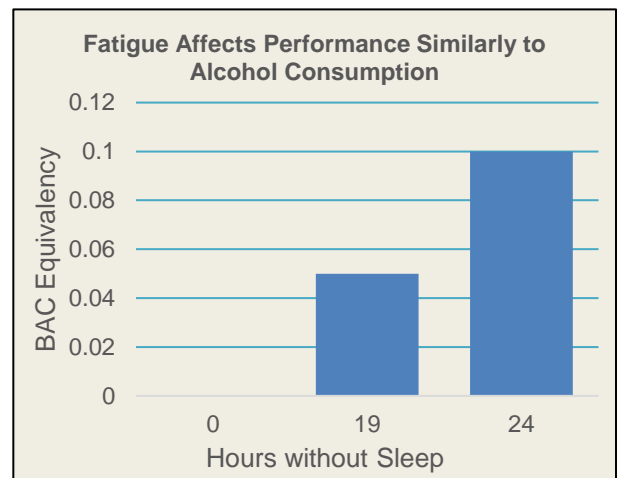


Figure 1. Comparison of equivalency between sleep deprivation and blood alcohol; graph created from data published in <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1739867/pdf/v057p00649.pdf>

Research from the NSC also demonstrates fatigued workers are an economic strain to themselves, their employers, and society. These strains are due to decreased productivity, increased risk of negative safety outcomes, and increased chance of health problems and illness.

## FACTORS CONTRIBUTING TO FATIGUE

Nearly everyone experiences fatigue at some level. It is important to determine the employees **most at risk** for fatigue in your organization. Those most at risk includes employees who may:

- Perform shift work
- Perform tasks for extended periods of time
- Have untreated sleep disorders
- Take medications known to interfere with sleep
- Perform repetitive tasks
- Get less than 7 hours of sleep
- Deal with continual stress



Employees' assigned tasks, the organization itself, and even the work environment can increase employee fatigue. Examples include:

| Task-Related Factors   | Organizational Factors  | Environmental Factors   |
|--|---|---|
| <ul style="list-style-type: none"> <li>Type of task</li> <li>Physical and mental demand</li> <li>Repetition and high-frequency</li> <li>Long, drawn-out tasks</li> <li>Level of experience</li> <li>Lack of variety</li> </ul> | <ul style="list-style-type: none"> <li>Safety culture</li> <li>Employee engagement</li> <li>Leadership commitment</li> <li>Company size</li> <li>Type of industry</li> <li>Absence of a Fatigue Risk Management System (FRMS)</li> <li>Scheduling</li> <li>Employee compensation</li> </ul> | <ul style="list-style-type: none"> <li>Noise</li> <li>Vibration</li> <li>Indoor air quality</li> <li>Temperature (heat/cold stress)</li> <li>Low lighting levels</li> </ul> |

Other factors potentially contributing to workplace fatigue include: time of the day, sleep deprivation, time spent on a task, or personal factors (e.g., age, medical conditions).

### FATIGUE PREVENTION

The National Health Institute **recommends 7–9 hours of sleep per night** to prevent fatigue. In actuality, 30% of employees admit to getting fewer than 6 hours of sleep per night though. Consider these tips to help your employees avoid fatigue due to a lack of sleep:

- Align your natural body clock with your work schedule – sleep during the day if you work night shift; try to maintain a consistent sleep schedule even on days off; and consider blackout curtains to keep the bedroom dark.
- Avoid caffeine consumption as much as possible, especially in the latter half of the day.
- Promote moderate amounts of exercise, as studies have found exercise improves sleep improvements.
- Ask employees to talk to their doctors about possible sleeping disorders, as needed.

Additionally, an effective method to prevent fatigue is to implement an FRMS. The key components include: fatigue management policy, risk management, a reporting system, incident investigations, fatigue management-related training and education, sleep disorder management, and periodic reviews for continuous improvement. Figure 2 shows the cyclical actions your organization can take to address and prevent employee fatigue using an FRMS.

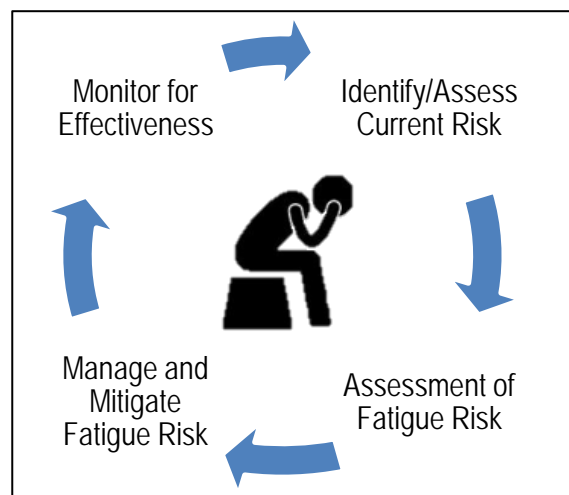


Figure 2. Actions to ensure an effective FRMS

For additional information on the SMCX's services, please visit the SMCX-hosted website at: <http://www.smcx.org/>.