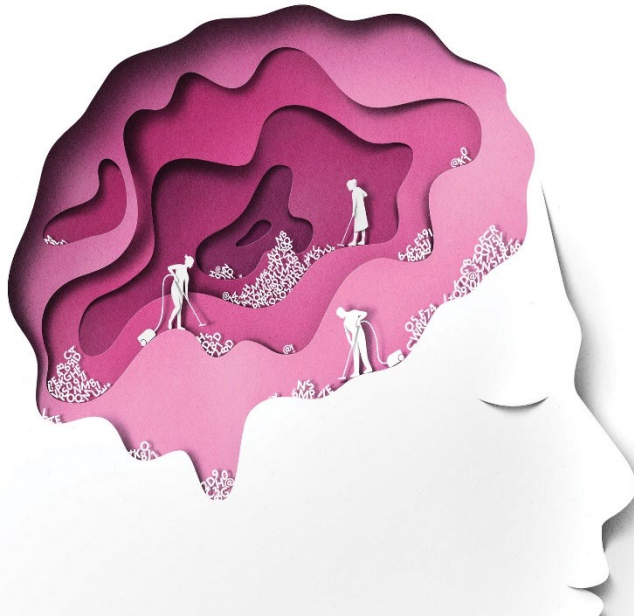


# How Nutrition & Sleep Affect the Brain

Nutrition and sleep play an important role in how your brain functions on a daily basis. Without proper nutrition and sleep you may experience symptoms that affect your overall brain functionality for day-to-day life. The most common symptom experienced with lack of proper nutrition and sleep is fatigue. Fatigue is a feeling of constant exhaustion, lack of energy or burnout and greatly affects your physical and mental health.



## Sleep and the Brain

Sleep allows for your body to re-energize your body's cells. When you are sleeping, the brain cycles between two stages of sleep: rapid-eye movement (REM) sleep and non-REM sleep. During these cycles, your body completes tasks such as waste product removal of brain cells, information storage and memory storage of events throughout the day.

Without adequate sleep, your body is deprived of time to re-energize your body's cells which can result in brain fog, irritability, and loss of appetite. To promote healthy brain function and good cognitive performance, your body needs at least 6-8 hours of sleep each day.

## Nutrition and the Brain

Nutrition is vital in supporting the basic everyday functions of the body. The foods you eat supply the nutrients your body needs to maintain your brain, muscle, bone, nerves, skin, blood circulation, and immune system. Without a proper nutritional diet, your brain is deprived of the basic building blocks used by neurotransmitters to communicate throughout your body. Symptoms of improper nutrition can result in symptoms such as fatigue, cognitive decline, irritability and depression.

Healthy eating looks different for everyone. Dietary needs change during each stage of life. A nutritious and balanced eating plan that includes the four basic food groups can help ensure you are getting enough essential nutrients through life stages to maintain optimal health and/or manage health conditions.



Canada's Food Guide recommends that half of our plate at each meal should be fruits and vegetables to help achieve good health. Fruits and vegetables can come in many forms including canned, fresh, or frozen and all provide important nutrients.



Links for more information:

- [Canada's Food Guide](#)
- [Recipe and Cooking Activities](#)
- [PEI Community Nutrition Program](#)
- [Canadian Institution of Health Research](#)
- [Sleep on It Canada](#)

Have plenty of  
vegetables and fruits

Eat protein foods

Make water  
your drink  
of choice



Choose  
whole grain  
foods

# FATIGUE AND WORK

Staying awake for **24 hours** straight affects the human body almost exactly like a blood alcohol level of **.10%**, which exceeds Canada's legal limit for drivers.



## Impacts of fatigue

### DECREASED

- decision making ability
- ability to do complex planning
- communication skills
- productivity / performance
- attention and vigilance
- ability to handle job stress
- reaction time
- memory / ability to recall details

### INCREASED

- tendency for risk-taking
- forgetfulness
- errors in judgement
- sick time and absenteeism
- medical costs
- accident rates

Fatigue can impact work performance. Most accidents occur between **midnight and 6 am**, and between **1-3 pm**.<sup>[3]</sup>



Fatigue: feeling very **tired**, **weary** resulting from insufficient sleep, prolonged mental or physical work, shift work, or extended periods of stress or anxiety.



**One** shift worker in **five** dozes off during a shift.<sup>[1]</sup>

**Night, evening, rotating** and **irregular shifts** are associated with an increased risk of occupational injury due to **worker fatigue**, **less supervision** and **reduced co-worker support**.<sup>[2]</sup>



## SIGNS



## Fatigue is increased by...



dim lighting



limited visual acuity



high temperatures



high noise



high comfort



tasks over long periods of time



long, repetitive and monotonous tasks

## Tips for workers



**EAT** a healthy diet that promotes longer-lasting energy. Complex carbohydrates (starch) are preferable to simple carbohydrates (sugar). Avoid fatty foods and junk food.



**ADOPT** a steady exercise routine that includes cardiovascular, muscle strengthening and flexibility workouts.



**TRY** to get at least 7.5 - 8.5 hours of sleep per night.



**AVOID** driving if you are tired, especially in inclement weather where vision is impaired.

## Advice for employers



**ENSURE** the work environment does not promote fatigue. Try to avoid dim lighting, warm temperatures, and excessive noise.

**VARY** job tasks to eliminate repetition or long periods of boring, monotonous work.

**INCORPORATE** and encourage taking breaks.

**TRAIN** workers on the importance of getting enough rest and how to achieve work-life balance.

**INTRODUCE** shorter shifts, and rotate shifts in the direction of the sun (morning, afternoon, night, in that order).

Canada

**CCOHS.ca**  
Canadian Centre for Occupational Health and Safety

[1] <http://www.ccohs.ca/newsletters/hsreport/issues/2007/11/ezone.html>

[2] <http://www.ccohs.ca/oshanswers/ergonomics/shiftwrk.html>

[3] Alberta Human Resources and Employment. Fatigue, Extended Work Hours, and Safety in the Workplace in Workplace Health and Safety, June 2004, Reformatted August 2010