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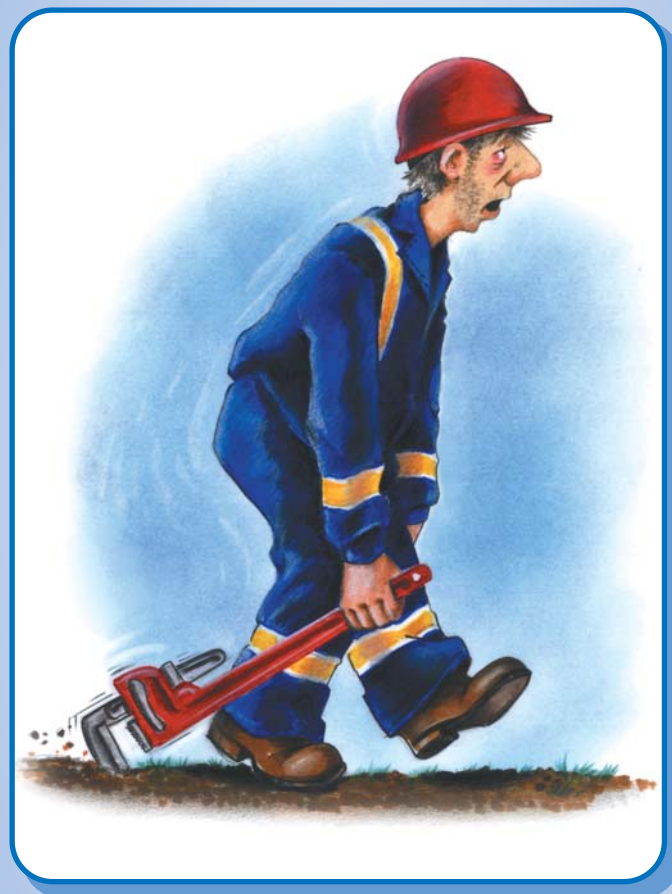
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Guide to Safe Work Fatigue Management



**A Worker's Guide to Preventing Incidents
and Injuries Related to Fatigue**

Developed March 2006

1. What Fatigue Is

What Fatigue Is

Simply put, fatigue means exhaustion, tiredness, sluggishness, or sleepiness. It's not just a perception — a feeling of being tired — but also a physical state experienced by your body. It's your body's way of telling you it's had enough. Think of your body as the original Starship Enterprise's Scotty saying, "I'm sorry Cap'n, but I just canna give you no more!" Unfortunately, we often feel the need to ignore these messages from our bodies.

Why We're Tired

Our society runs 24/7. Stores stay open late or even all night to meet customers' need for flexibility and convenience. Newspapers arrive by six. We can check our email or shop online any time of the day or night. And our cellphones keep us in touch with others around the clock.

Even with standard work hours, that means we don't always have enough time to rest. Our daily life often has a big to-do list: spouses, kids, pets, housework, sports, entertainment, and socializing all take another bite out of the day.

What This Can Do

All these factors contribute to fatigue, and fatigue affects performance, whether at work or at home. For example, the Alberta Motor Association (AMA) reports that fatigue is a factor in over half of single-vehicle collisions — one good reason rumble strips are put on highways.

Lack of sleep has also contributed to some tragic workplace incidents. Home life is affected, too: fatigue is one of the causes of irritability or depression, and it can have a negative impact on sexual intimacy. This flip guide has information to help you reduce these effects of fatigue in your life.

2. What It Does to You



One of these workers is not like the other...

No Big Deal?

Think fatigue is no big deal? Look at what it could do to you:

- ✎ You may not see properly.
- ✎ You may have slower reflexes and reactions.

- ✎ You may have microsleeps (up to 60 seconds where the brain goes to sleep and you black out no matter what you're doing).
- ✎ You may go on auto-pilot (automatic behaviour where you do routine tasks but aren't having any conscious thoughts).
- ✎ You may not make good decisions.
- ✎ You may not be able to solve problems.
- ✎ You may not be able to concentrate or remember.
- ✎ You may not notice things you usually would.
- ✎ You may be less productive or efficient.
- ✎ You may have poor judgement.
- ✎ You may make more mistakes than usual.
- ✎ You may take risks you usually wouldn't.
- ✎ You may not communicate well.
- ✎ You may not handle stress well.
- ✎ You may get moody.

What a long list! Fatigue affects everyone differently, but it can take a big toll on your body.

2. What It Does to You

3. What Causes It

Lack of Sleep

The major cause of fatigue is a lack of sleep — just once or over time. You may have a late night and be tired the next day, or you may get **too little sleep (13)** every night and develop a **sleep debt (12)**.

Work Schedules and Fatigue

Work also plays a role in fatigue. Physical and mental activities tax your body, so it's no surprise that you get tired from work — whether on a rig or behind a computer.

You need time off to rest before heading back to work, so you need to set limits on hours and days. When setting up your work schedule, you need to make allowances for these situations:

- ✎ Long hours of physical or mental activity
- ✎ Inadequate breaks
- ✎ Not enough rest between work days
- ✎ Shift work (permanent or rotating)
- ✎ Extended or compressed work weeks and day-off patterns
- ✎ Being on call
- ✎ Travelling in multiple time zones

If your schedule is causing fatigue on the job, talk to your supervisor. Companies and supervisors need to recognize your need for rest. Many employers have a fatigue management program, and will work with you and your co-workers to address the situation. Also, really think twice before taking on more than one job because fatigue can quickly make you unfit to do any of them properly or safely. If you can't make changes to your work schedule, be sure you maximize your **off-work rest (11)(13)**.

Lack of sleep and poor work scheduling are the primary culprits of fatigue, but there are many other factors. Flip to the next section to find out what makes fatigue more intense.

4. What Makes It Worse

Your Body's Sleep Cycle

Are you a morning or a night person or somewhere in between? We all have our own biological sleep rhythm, and fatigue hits us harder during our **naturally sleepy periods (12)**. If you're working then, watch carefully for signs of fatigue.

Your Health

If you have a condition such as diabetes, allergies, hypertension, or a short-term illness like a cold, you can be more easily fatigued. What's more, the over-the-counter (OTC) or prescription medication you take for a condition or illness could affect your sleep or make you drowsy. For example, some cold medicine, back pain medicine, and muscle relaxants can cause drowsiness.

If you have health issues or you are taking medication, talk with your supervisor and be careful to watch for fatigue. Of course, **sleep disorders (12)** can also add to your fatigue.

Your Work Conditions

Fatigue and its effects are intensified by two kinds of work:

1. Monotonous or simple tasks that last half an hour or more and aren't stimulating enough to keep a tired mind on the task
2. Complex, mentally challenging tasks that are too stimulating for a tired mind to cope with

Where you are working could also affect your level of fatigue. For example, if you're doing the work in a taxing environment, such as outdoors in the cold or heat, or in a factory with a lot of noise or poor ventilation, you could become more fatigued. Even being away from home for long periods can affect you.

4. What Makes It Worse

5. What It Looks Like

Don't Let Fatigue Sneak Up!

Becoming fatigued isn't like getting a cold. You aren't going to get such clear signs as a runny nose or sore throat. And unfortunately, being fatigued makes it harder to notice that you are fatigued. That's why it's so important to remember the fatigue warning signs below, and watch carefully for them in yourself and others. If you see them, **take action right away (6)**.

Physical Symptoms

- 📌 Drowsiness
- 📌 Yawning
- 📌 Eyes closing or getting sore
- 📌 Vision going out of focus or blurring
- 📌 Slower physical reaction time
- 📌 Microsleeps
- 📌 Automatic behaviour

Mental Symptoms

- 📌 Poor concentration, including wandering thoughts
- 📌 Inability to remember things you've just done, seen, or heard
- 📌 Failure to respond to changes in your surroundings or situation
- 📌 Less alertness and watchfulness
- 📌 Poor logic and judgement, including taking risks you usually wouldn't

Emotional Symptoms



Fatigue can make your mood change from normal and stable to any of the following:

- 📌 Bored
- 📌 Restless
- 📌 Depressed
- 📌 Giddy
- 📌 Grouchy
- 📌 Impatient

6. What to Do About It

If you notice you have signs of fatigue, don't ignore them! Take immediate action to make sure your fatigue doesn't make you a hazard to yourself or others. If you're **working and fatigued (10)**, your employer may require that you report that to your supervisor. Your supervisor can then try to reassign you to a less risky task or let you rest.

In the meantime, here's a list of temporary measures you can use to deal with fatigue.

-  **Take a nap** — This is the best treatment for fatigue! Sleeping for 20 minutes may refresh you enough so you can keep working safely. If you're driving, make sure you get off the road to a well-lit area (not just the shoulder) and have good ventilation in your vehicle.
-  **Take a break** — Stop what you're doing, walk around or exercise, and get some fresh air.
-  **Make yourself uncomfortable** — Sit straight if you're in a chair, and if possible, keep your environment cool, well ventilated, a bit noisy, and brightly lit. If you're too comfortable, your alertness will decrease.
-  **Have a snack** — Stay hydrated, eat light meals, and avoid sleep-inducing foods and alcohol. Don't trust caffeine for alertness — whether it's in coffee, tea, energy drinks, pop, chocolate, or pills. Caffeine takes about half an hour to have any effect, lasts only a short time, and leaves you even more tired when it wears off. **Eating properly (7)** gives you energy.
-  **Change it up** — Break any monotony you're experiencing. For example, if you're driving, change the radio station often, sing along, or talk to yourself. But please don't use your cellphone while driving!
-  **Stimulate your mind** — Do something else that is more interesting. Talk to a co-worker or listen to talk radio.

Remember

These are only temporary measures.
If you are too tired to work safely,
then stop what you're doing.

7. How to Prevent It

Get Enough Sleep

















The best way to prevent fatigue is to get enough **quality sleep (11)(13)(14)**. This means making time for effective sleep during your time off and catching up on your **sleep debt (12)** if necessary.

Eat Right for Alertness

Did you know that lack of sleep can lead to eating too often? Your body will try hard to fuel itself — one way or another! Unfortunately, this usually makes you gain weight. In fact, most older shift workers are up to 40 pounds (18 kg) overweight.

Cravings, hunger, and overeating result from skipping meals or not eating on a schedule. This kind of eating leads to spikes and lows in your energy and body chemistry. Take the time to stop for breaks, and do your best to eat your meals and snacks at the same time every day.

Besides eating regularly, you should try to eat foods that give you good energy. This doesn't mean you need to go on a tofu and celery juice diet to prevent fatigue. Just choose foods carefully to keep up your energy at work.

Foods for Good Energy	
 Lean meats (e.g., skinless chicken).....	S
 Fish or shellfish	S
 Soybeans, tofu, and other beans	S
 Low-fat dairy products	S
 Fruits and vegetables	F
 Wholegrain breads, cereal, and crackers	F
 Potatoes, rice, and noodles.....	F
 Fruit juice.....	F
S = slow-acting proteins: raise blood sugar in about 40 min. F = fast-acting carbs: raise blood sugar in about 20 min.	
Foods to Avoid	
 Candies, sweets, and pastries	
 Fatty meats (e.g., chicken with skin)	
 Fried foods (e.g., french fries)	
 High-fat dairy products (e.g., ice cream)	
 "Junk" food (e.g., potato chips)	
 Fast foods (e.g., pizza or burgers)	
 Soft drinks	
 Alcohol	

7. How to Prevent It

8. Are You Too Tired? Take Our Test!



To evaluate your fatigue level, try the following test. Think about the last month, and rate yourself on a scale of 1 to 5 for each statement:

1 = *always*, 2 = *often*, 3 = *sometimes*, 4 = *seldom*, and 5 = *never*. Then add up your score, and check the rating scale below.

- 1. I have a nice work/home life balance.
- 2. I have lots of energy and enjoy life.
- 3. I socialize with family and friends.

- 4. I relate well with people and have a good sense of humour.
- 5. I'm in control of my life and find ways to solve my problems.
- 6. I'm a good sleeper and wake up refreshed.
- 7. I don't get stomachaches, tense muscles, or headaches.
- 8. I do at least 30 minutes of moderate exercise five times a week.
- 9. I eat 2 or 3 well-balanced meals a day.
- 10. I eat breakfast every morning.
- 11. I don't smoke.
- 12. I have no more than 2 alcoholic drinks a day.
- 13. I enjoy my work and feel like I'm doing something useful.
- 14. I'm close to being my proper weight.
- 15. I don't have anxiety, low self-esteem, or depression.

TOTAL

15-22		You've got some really positive fatigue management behaviours!
23-38		You've got some good skills, but need some improvement.
39-75		You could be more at risk for the effects of fatigue. Read this flip guide to develop some ways to combat and prevent fatigue.

8. Are You Too Tired? Take Our Test!

9. But I Can Handle It...



Fatigue is more powerful than your willpower...

Don't Buy Into These Myths!

There are many myths that go around about alertness, fatigue, and sleep. Here are a few key ones to know about.

I can handle it – I've got willpower.

You may be very strong mentally or physically, but fatigue steamrolls anyone's willpower or good intentions to stay awake. If your body needs to sleep, it will. If you refuse to listen to **your body's messages (5)** to rest, it will sneak sleep in with dangerous microsleeps and auto-pilot behaviour where your brain shuts off. Don't let people tell you fatigue is a sign of weakness — it's just a sign that you need to sleep. Listen to your body.

I can tell when I'm about to fall asleep.

If that were true, there would be no fatigue-related collisions or workplace incidents. The problem is that fatigue makes it harder to notice you are fatigued. Don't push your luck. If you notice signs of fatigue, take **corrective action (6)** immediately!

I'm a safe worker or driver, so it doesn't matter if I'm fatigued.

Sometimes we say, "Oh, I could do that in my sleep." But that's just a figure of speech — you can't actually work or drive in sleep mode. It doesn't matter how good you are at the task when you're awake! Use **temporary measures (6)** to deal with fatigue if necessary.

9. But I Can Handle It...

10. But I Have to Work...



Reality Check?

You may say, "Sure, I'd like to stop working every time I'm really fatigued, but who's going to finish my work? My boss expects me to get this stuff done." Or, you might say, "I want to work that extra shift to get a bonus or extra pay, even though I'm exhausted."

Right to Refuse Unsafe Work

However, you have a personal responsibility to refuse unsafe work — whether it's because of fatigue or any other unsafe situation. And most company health and safety management systems confirm your right and responsibility to do so.

Fatigue Management

Employers value their employees and employee safety. Many employers even have fatigue management programs to ensure the health and safety of their employees and contractors.

So, if you're fatigued, talk with your employer and stop work immediately. Besides, you're likely to work more slowly, check your work more, rely more on co-workers, and avoid complex tasks. You're also more likely to cause incidents, quit work, or be absent or sick.

Work Safely

Review your company's program to see what it says to do when you're fatigued on the job — usually it says you should let your supervisor know so he can send you for rest or move you to a less risky task. It may also ask you to alert your co-workers to their signs of fatigue, for their safety. The bottom line is — you need to put your own safety and your co-workers' safety first.







10. But I Have to Work...

11. But I Have a Life...

You might be thinking that you can't spend all your free time sleeping. You've got a life, after all. When you finally get off work, you have a bunch of things to do, maybe like this list:

TO DO:
<input type="checkbox"/> walk the dog
<input type="checkbox"/> take kids to soccer
<input type="checkbox"/> go to dentist appointment
<input type="checkbox"/> change oil in car
<input type="checkbox"/> look into getting satellite dish
<input type="checkbox"/> pay the bills
<input type="checkbox"/> fix leaky tap in bathroom
<input type="checkbox"/> see new movie with spouse
<input type="checkbox"/> watch the basketball game
<input type="checkbox"/> go to the gym

The temptation with this kind of list is to resist sleep in order to free up time. Unfortunately, lists like this never get smaller — there's always something else to do. Make the decision to put sleep high up on your list. Here are some ways to free up time:

-  Ask your kids to walk the dog after school.
-  Have your spouse take the car for an oil change.
-  Set up automatic payments for monthly bills.
-  Skip the movie and catch up with your spouse on the sidelines at your kids' soccer game.
-  Watch the basketball game while you're jogging or biking at the gym.
-  Look for creative ways to get things done, and don't be afraid to set priorities.

You might decide to skip sleep to get everything on your list done — because others are counting on you or you want to make them happy. But, the resulting stress and fatigue may impact not only your work, but also your home life — and the very people you're trying to please. In fact, fatigue is often linked to illness, domestic disputes, and failed relationships. These things lead to more stress, which can make it hard to sleep, and the cycle continues.

**Make your rest time a priority
— your personal life may actually benefit from it.**

12. The Science of Sleep

Circadian Rhythms and Sleep Cycles

We all have an internal clock that sets our daily circadian (sir-KAY-dee-un) rhythms — our times for sleep, alertness, eating, digestion, and other body functions. These rhythms generally allow for high activity during the day and low at night for sleep.

Sleep is a complex process and has two categories: non-REM and REM (rapid eye movement). You cycle from non-REM to REM during sleep, and your brain behaves differently in each stage. Non-REM sleep has four stages and lasts 1.5 to 2 hours, with each stage lasting 5 to 15 minutes. REM sleep (when you dream) has about four or five stages, and it's the most refreshing sleep for your brain. The first REM stage usually lasts about 10 minutes, and each one after that gets a bit longer. The final stage lasts about an hour. When you get less sleep, you miss some of the refreshing REM sleep.

Sleep Debt

Most people need about 8 hours of sleep a day — some a bit more and some a bit less. If you need a bit more or less, don't feel that you must conform. But do be honest about how much you actually need to be at the top of your game.

When you get less sleep than you need, you're creating a sleep debt. If you need your alarm clock to wake up on time, you're in sleep debt territory. And cancelling that debt often can't be done overnight. The more sleep debt you have, the more good sleep it may take you to pay it back.

Sleep Disorders

Some people have physical or neurological sleep problems/disorders and may not realize it until a bed partner tells them! You may suspect you have one if you aren't sleeping well, you aren't waking refreshed, or your bed partner is complaining about your moving or gasping or snoring. Consult your doctor and/or our [resource websites \(15\)](#) for more details about these common sleep disorders:

- Periodic Limb Movement Syndrome
- Insomnia • REM Behaviour Disorder • Narcolepsy
- Restless Legs Syndrome • Sleep Apnea • Sleepwalking

13. Sleep Better/Sleep Longer

Sleep Disrupters

Here are some things to avoid, if possible, as they can get in the way of a good sleep:

- ✎ Caffeine
- ✎ Nicotine
- ✎ Alcohol
- ✎ OTC or prescription medicine and illegal drugs
- ✎ Big meals before bed
- ✎ Stress from work or home life
- ✎ Daytime naps (over 20 minutes)
- ✎ Changing your sleep routine on days off

If these disrupters aren't the cause of your sleep problems and the sleep tips below don't help, talk to your doctor. You may have a medical condition or **sleep disorder (12)** that should be looked into.

Sleep Aids

Certain substances may help you sleep, such as OTC or prescription sleeping pills; supplements like melatonin, valerian, chamomile, or tryptophan; and aromatherapy like lavender and clary sage. Before you use any sleep aids, talk to your doctor. They are generally not meant to be used for long-term treatment of insomnia or sleep problems. And make sure you never combine them with alcohol!

Sleep Tips

- ✎ Don't go to bed if you're not tired.
- ✎ Don't associate your bed with tasks that need concentration — leave the bills, textbooks, and computer outside the bedroom.
- ✎ Set up a **good sleep environment (14)**.
- ✎ Get regular exercise (but not right before bed).
- ✎ Give yourself a transition time before going to bed (e.g., a ritual such as watching a favourite TV show or doing some light reading).
- ✎ Take a relaxing dip in a hot tub or bath, or take a nice warm shower.
- ✎ If you don't fall asleep within 15 minutes, get out of bed and don't go back unless you're tired.
- ✎ If you don't fall asleep, don't get worked up about it — that just makes it worse.
- ✎ If you're worried about stuff, jot it down on a notepad to look at when you get up.

14. Your Sleep Space



What things could keep this guy from getting a good sleep?

No curtain/sun shining in window; broken bed/lump/mattress; blaring TV; hot room temperature; beer before bedtime

Improve Your Sleep Space

Where you sleep makes a difference to how you sleep. Use these tips to improve your sleep space.

Temperature: A cool room (17-19°C/63-66°F) with good air circulation will be in sync with your body's internal temperature, which drops during sleep.

Light: Make your room as dark as possible using blinds, heavy curtains, or an eye mask to block light. Strong light or sunlight can upset your internal clock.

Noise: A quiet room is good for falling asleep. So, turn off the TV and cellphone. Ask your spouse, kids, or roommates to keep it down. Mask noise with a fan or use ear plugs. Muffle noise you can't turn off with carpets, heavy curtains, and multiple pane windows.

Bed: Make sure you have layered blankets and a mattress that is large enough and works for you, whether it is firm or soft, foam or springs.

Distractions: Remove the TV, and turn alarm clocks or watches around so you aren't tempted to keep checking the time.

Away from Home: At a hotel or camp, unfamiliar surroundings may make it harder to sleep. Put out a few photos or favourite things to make it feel homier. Take your own pillow. In a hotel, choose a room away from elevators and snack machines.

15. Sources & Resources

Fatigue Science and Safety

The following websites and documents were consulted in the research for this guide. Please refer to them for more information. All links were verified at the time of publication.

Alberta Motor Association – Crash Causes

www.ama.ab.ca/cps/rde/xchg/SID-53ED365B-D7736803/ama/web/advocacy_safety_Crash-Causes.htm

Alberta Workplace Health and Safety – Fatigue and Safety at the Workplace

www.gov.ab.ca/hre/whs/publications/pdf/erg015-1.pdf

Alberta Workplace Health and Safety – Fatigue, Extended Work Hours, and Safety in the Workplace

www.gov.ab.ca/hre/whs/publications/pdf/erg015.pdf

Better Sleep Council Canada

www.bettersleep.ca

Canadian Centre for Occupational Health and Safety – What Is Fatigue?

www.ccohs.ca/oshanswers/psychosocial/fatigue.html

National Sleep Foundation

www.sleepfoundation.org

Workers' Compensation Board of Alberta – Working Safely Behind the Wheel

www.wcb.ab.ca/pdfs/driving_safely.pdf

Work Safe Alberta – Shift Work and Fatigue

www.gov.ab.ca/hre/whs/learning/Shiftwork/

Fatigue Management Programs

The information in this flip guide is meant to help readers understand fatigue, recognize it, and take appropriate corrective and preventative action for it. Managers or executives can find advice for corporate policies and programs on fatigue in Enform's *Guide to Safe Work on Fatigue Management*, available at www.enform.ca.






16. Acknowledgements

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Coba Veldkamp	Synergos

Toolbox Talks

Looking to raise awareness of fatigue in your workplace? You can use this flip guide to discuss the following:

-  Symptoms of fatigue
-  Preventing fatigue
-  Fatigue management
-  Worker responsibility to refuse unsafe work
-  Developing a sleep system

*Would you want
to be working
with this guy?*



2

1

Most of us have done it: skipped sleep to cram for a test or hang out with friends. And many of us have been asked to work late, maybe for days in a row. We remember these events, but do we remember the sleep-deprivation "hangover" that came the next day? Fatigue affects our bodies and minds, and so it also affects our work. Would you want to be working with the truck driver shown above? His fatigue is making his actions hazardous to everyone around him!



3

4



Being informed is your best defence against injuries and incidents related to fatigue. In this flip guide, you can find out what causes fatigue, how it affects you, what to do about it, and how to prevent it.

Take our quiz (8) to see if you're at risk for fatigue.