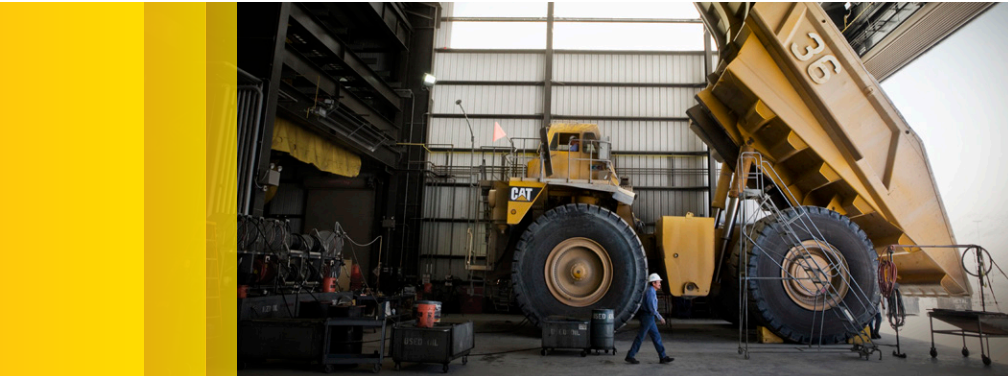


AN EMPLOYEE GUIDE

HOW TO MANAGE FATIGUE AT WORK

(BE MORE ALERT AND GET YOUR BEST NIGHT'S SLEEP YET!)



Fatigue is the result of extended mental and/or physical exhaustion that impairs normal brain and body functioning.

Impaired functioning impacts everything from personal health (increased risk of heart disease and depression) to workplace safety (compromised hand-eye coordination, falling asleep at work and ability to concentrate).

Almost everyone has, at one time or another, felt the impact of fatigue. Whether brought on from a lack of sleep, strenuous work, changing rosters and shifts or poor quality of sleep, the negative effects on our moods, decision-making and logical reasoning skills (to name a few) are clearly apparent.

Here, we will offer some helpful tips to maintain your alertness whilst at work.

These tips are intended to be used as a guide by individuals who experience fatigue and you may see different results based on your personal circumstances and life choices, so it's important to understand what works for you.



HOW DOES FATIGUE RELATE TO SAFETY

The [Transport Accident Commission](#) (TAC) reports that if a driver travelling at 100 km/h falls asleep for just 4 seconds, he/she will have gone 111 meters while asleep. In June 2000, Australia had a population of just under 20 million, and that year, the federal government reported road accidents with a fatigue related component total around \$3 billion dollars. In New South Wales alone, from 2000-2013, figures show fatigue was a contributing factor in more injury related accidents than alcohol.

In [Driver Safety System](#) assessments, mining trucks were discovered passing each other with both drivers asleep at the wheel.

In the U.S., the [National Transportation Safety Board](#) found that 100,000 highway transport crashes involved drowsy drivers and resulted in 1,500 fatalities.

Without even considering the negative health consequences for individuals, it's no wonder fatigue is finding its way into the spotlight.



PROVEN TIPS TO HELP YOU ...

MAINTAIN YOUR ENERGY LEVELS AND STOP FALLING ASLEEP ON THE JOB – AND – ACHIEVE QUALITY SLEEP

FATIGUE PREVENTION.....4

Make sleep a priority 5

Eat well and maintain a healthy diet. 7

Make exercise part of your schedule 10

FATIGUE MANAGEMENT14

How to combat fatigue at work..... 15

Manage your transitions to nightshift. 17

ADDITIONAL RESOURCES19



FATIGUE PREVENTION

THE QUICK AND SIMPLE – FALL ASLEEP FASTER AND GET QUALITY SHUT-EYE:

Are you getting enough shut-eye to be effective during your day, maintain a healthy weight range and perform your role without feeling tired and grumpy?

The [National Sleep Foundation](#) (NSF) recently revisited ideal sleep requirements but made no changes to the 26-64 age category, where the recommendation is 7-9 hours per night. However, experts recommend listening to your body clock, as some people may not experience any adverse health or sleep effects with shorter or longer sleep periods. Additionally, the amount of sleep you need can vary depending on the quality of the sleep you have. With that in mind, any sleep durations far outside the range should prompt a doctor visit.

MAKE SLEEP A PRIORITY



MAKE THE ROOM AS DARK AS POSSIBLE. Time to pull out your eye masks and close those light blocking curtains — getting good sleep requires absolute darkness. Hormones produced at night help with your sleep/wake cycle and influence everything from body temperature, melatonin production (which helps you fall asleep) to your DNA responses, according to the [NSF](#). Hitting the sack with the lights on, falling asleep in front of the TV and even having clock radios with LED lighting can all interfere with our bodies’ natural night time regulation and health sustaining abilities. Shift workers driving home in daylight should try to wear dark glasses on the way home and limit the lights on in their houses before hitting the pillow.



TURN OFF ELECTRONIC DEVICES AND DON'T CHECK YOUR PHONE AFTER GETTING INTO BED. [NSF's research studies](#) tell us that the light from our technology devices is enough to confuse our brain and encourage us to stay awake. According to [Harvard University](#), our devices also emit blue light, which is the closest to sunlight and triggers our bodies to be more alert, making it harder to sleep. If you must have light in your room — from a clock radio or a night light — make it a red one, as the red light is the least disruptive to your sleep patterns. Also consider turning off or removing all devices from your room and keeping their use to a minimum at least 30 minutes before bed — this will make your drift into dreamland easier.



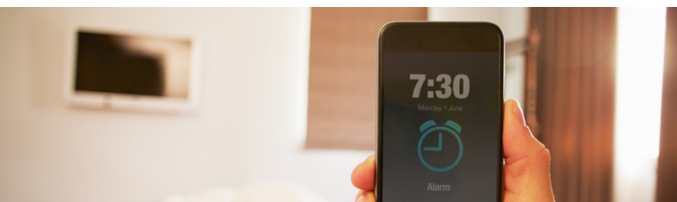
LISTEN TO SILENCE. Sounds, even those outside of the bedroom can interrupt your sleep patterns. Repercussions of noise whilst you sleep include waking, shifting or changes to heart rate or blood pressure. These can be so brief that you don't remember them in the morning, but the impact on your sleep can increase fatigue. Consider using white noise or ear plugs if you suspect sounds could be interrupting your sleep.



WRITE THOUGHTS DOWN INSTEAD OF WORRYING AND THINKING. Keep a notepad and pen on the bedside table if you're prone to pondering as you doze off. Writing down your worries or thoughts, and deciding to deal with them in the morning is a great way to stop the cogs turning as you try to get some sleep.



SEND PETS TO THEIR OWN BEDS OR KEEP THEM ON THE FLOOR. Animals on the bed can create added heat, restrict your movement, increase allergens and can become restless. To stop animals disrupting your sleep, consider keeping them in another room.



MAKE YOUR SLEEP PATTERNS REGULAR. Setting a regular timetable for sleep and hitting the pillows within 30 minutes either side of a set time each night can help improve your sleep patterns and make dozing off easier. Ensuring your alarm gets you out of bed at the same time each morning significantly helps too, as our body clock likes consistency. Adjusting your body clock to your new sleeping habits can take time, so give yourself a week to see improvements in your sleep quality.



You can download a comprehensive [bedroom senses breakdown from NSF](#) here for all the top tips on getting to sleep faster and for longer, and the [Harvard Medical School's top 12 tips to improve your sleep here](#).



EAT WELL AND MAINTAIN A HEALTHY DIET

Have you thought about the way the food and drink you consume impacts your ability to sleep? Food and drink play a major role in inhibiting and facilitating your sleep. Dehydration can make you feel sleepy and hungry, whilst sugar creates spikes that make it hard to rest. Managing your drinks, meals and snacks can make a big difference to the quality and quantity of your sleep.



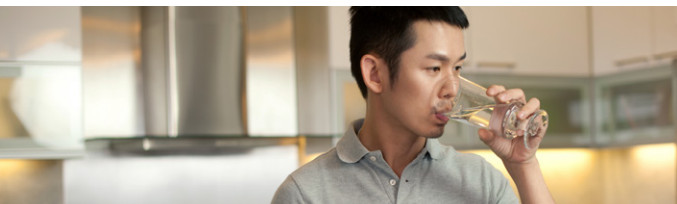
DISCONTINUE CAFFEINE INTAKE SEVERAL HOURS BEFORE YOUR HEAD HITS THE PILLOW. This includes the caffeine in tea, coffee, soft drink, chocolate and energy drinks; all of which make it easier for us to stay awake and operate for longer. We all have a different tolerance to caffeine, depending on how often and how much we consume. Caffeine will typically take between 15 – 45 minutes to reach peak levels in your blood stream and 5-6 hours before the level of caffeine in your blood stream reduces to half your intake amount. Ultimately, any caffeine intake greater than 300 mg (think 3 cups of strong coffee) can cause jitters and start to impact your sleep, so, consider your bedtime before drinking up. Be aware that nicotine is also a stimulant and can affect your sleeping habits, too.



USE MODERATION WITH ALCOHOL. When it comes to alcohol, too much of it can have a significant impact on the quality of your sleep. Alcohol increases dehydration, changes your blood sugar levels and alters your natural sleeping rhythm, which can all lead to waking up tired. So try to limit your alcohol consumption and avoid using it as a tool to get to sleep – you'll probably just wake up more tired and lethargic.



AVOIDING LARGE MEALS IMMEDIATELY BEFORE BEDTIME. Eating snacks just prior to dozing off can be helpful if you're hungry, but eating a large meal can lead to falling asleep with heartburn or feeling uncomfortably full, both of which can impact sleep.



EAT DESSERT EARLIER. Yes, you can still eat delicious desserts, just do it at the right time to ensure your body has an opportunity to regulate your blood sugar levels before bed. To improve your quality and quantity of sleep, avoid any sugars (including those from high GI foods and soft drinks) 2-3 hours before you plan to go to sleep. According to [Diabetes UK](#), blood sugar levels can negatively impact sleep. Although some people suggest the fall from your sugar high could help you fall asleep, the resulting insulin release could cause anything from obstructive sleep apnea (weight related), increased body heat, irritability and potentially diabetes.

DRINK PLENTY OF WATER. Water makes up about 50-80% of our bodies and according to [NASA](#), also makes up about the same percentage of the earth. The reason? It sustains life. [The National Health and Medical Research Council](#) reports that even a 2% loss of body weight from dehydration can affect both cognitive functioning and your body's physiological responses. Tiredness is one of the symptoms of dehydration, so before you take the caffeine hit or start running on the spot, opt for a big glass of water and see if that helps.



MAKE EXERCISE PART OF YOUR SCHEDULE

We regularly hear about the importance of exercise for our health and weight, but recognising the impact exercise has on sleep can make a big difference in your fatigue levels, too.



IT DOESN'T MATTER WHEN YOU'RE ACTIVE, JUST MAKE SURE YOU ARE. [The University of Maryland Medical Centre](#) recognises both reduced stress levels and better sleep as outcomes of exercise performed during the day. According to the [NSF](#), performing moderate intensity exercise – such as walking – during your wake hours can decrease the time you take to fall asleep and increase the duration of your sleep. Just remember to get your exercise in a few hours before you want to hit the hay.

TRY YOGA. Yoga has been found to positively impact tension and fatigue as compared to aerobic exercise (think swimming) in males. This makes yoga a great pre-bedtime relaxation tool. Just remember that some yoga is designed to be more strenuous (Hot Yoga for instance) and can have the opposite effect. You could also try Pilates or meditation.

WHEN YOU NEED TO PERK-UP, TRY A DIFFERENT FORM OF EXERCISE. That's right, just as exercise (yoga) is able to reduce stress and make sleep come easier, it can also help you resist fatigue too. In fact, next time you find yourself getting a little sleepy on the job, try 20 jumping jacks and 20 lunges to help revitalise yourself.

LISTEN TO YOUR BODY. As with any exercise, you need to be mindful of your own body conditioning and responses. Any exercise or activity that increases adrenaline and body temperature may impact your ability to sleep. So, if you like your night-time gym sessions, try to finish up several hours before bed time to ensure you have time to relax. Take a look at the [Harvard Medical School Sleep information booklets online here](#) to find out more.



If you're still struggling to fit regular exercise into your day, try incorporating it into your normal activities. Try watching TV whilst doing squats on the couch, eating your snacks whilst performing some wall sits, holding a static squat whilst shaving or even getting in a few lunges whilst waiting in line for your morning coffee. If you're feeling up to it, jogging on the spot during TV ad breaks is another way to increase your heart rate – just make sure you're not doing this one immediately before you jump into bed.



For more information, the full [University of Maryland Medical Centre research paper](#) can be found here.

There is no better way to mitigate fatigue than through prior preparation. Although implementing all of the above tips can help, it's only by making sleep a priority you can ensure you get the quality and quantity of sleep you need. Keeping yourself fresh and recharged with sleep, will positively impact your health, attitude and overall fatigue levels.



FATIGUE MANAGEMENT

SIMPLE FATIGUE MANAGEMENT TECHNIQUES IN THE WORKPLACE

It's not just Fly-in fly-out workers or those at the mercy of their shift-roster who face the risk of fatigue. Parents of newborns, people undertaking labour-intensive work and everyone that struggles to keep their eyes closed once they hit the hay can all deal with fallout from poor sleep. [All mammals sleep](#) – although not all in the same way. Dolphins can turn off half their brain at a time and other animals, like fish, can reduce their consciousness and 'rest'. Regardless of their sleeping technique, we humans are the only mammals that willingly postpone sleep. Whilst sleep positively impacts so much of our body, according to William Dement, retired Stanford University Dean of Sleep Studies, science still only has one definitive answer as to why we sleep: “... *the only reason we need to sleep that is really, really solid is because we get sleepy*”¹

So, before your head nodding, yawning and blurry vision take over, try some of these easy tips to increase your alertness. Remember that these tips won't stop your need to sleep, but they will help you get through the rest of your shift or enable you to drive a bit safer until you can get your much needed Zzz's.

¹ D.T. Max, [‘The Secrets of Sleep’](#), National Geographic Magazine (May 2010)



HOW TO COMBAT FATIGUE AT WORK

STRETCH TO REJUVENATE YOUR MIND AND BODY. A simple 10 minutes of stretching at your desk or a brisk walk can improve energy levels and increase blood flow. It's an easy, inexpensive way to stimulate the brain and bring your mind back to the task at hand. Laughter is also a great energy booster, so next time you're on night-shift stretching your legs, try a few jokes and watch everyone's energy levels rise.

TRY SOME HEALTHY SNACKS. You have probably heard it all before, but eating high fat or high sugar foods leads to an energy slump not long after consumption. If you're already facing the effects of fatigue, sugar isn't your best option. Instead, try a chicken sandwich or almonds with fruit. The combination of carbohydrates and protein will give you the sustained boost you need. Don't forget that we often feel tired when we are actually dehydrated, so ensure you have some water with your meals to combat this, too.

WISELY TIMED CAFFEINE RATHER THAN LARGE AMOUNTS OF CAFFEINE CAN HELP.

Try small amounts of caffeine to help you strategically manage fatigue whilst at work. The effects of caffeine (energy drinks, coffee, tea and chocolate) takes about 20 – 30 minutes to kick-in and can last around 4 hours. If you have a long shift ahead, try spacing your caffeine out by having a weak coffee every 2 hours. Remember that any sugar you have with or in your caffeine intake (think energy drinks and chocolate) will create an energy slump and take you back to square one. Also, consider making home time caffeine free to avoid the negative impact on your sleep.



POWER NAP FOR 10 – 20, MINUTES TO POWER THROUGH AN ENERGY SLUMP.

Considered the ideal energy boosting nap time, 10 – 20 minutes of sleep increases alertness and keeps you out of deep sleep; making it easier to get cracking afterwards and avoid feeling groggy. For fatigued drivers and machinery operators, a 10 -20 minute ‘emergency nap’ is ideal to bring you back to alertness and help improve your productivity. With Victorian road crashes indicating 16 – 20% include fatigue as a factor, it’s no surprise the [TAC](#) recommends a 15 minute powernap can save your life. If you’re used to winding the window down, throwing your arm out the window, talking to someone or opting for loud music to stay awake on your drive, you may not be surprised to learn the small spike in alertness only lasts about 15 minutes at a time. So consider pulling over for a power nap or trying a portion of a cup of coffee if you’re going to be travelling on for longer.



TAKE REGULAR BREAKS FROM YOUR DESK, COMPUTER OR CHAIR. With technology keeping us at our desks longer, staring at a brightly lit screen, it’s no surprise that we are suffering everything from visual fatigue to headaches. Thankfully, technology has also provided some easy solutions to help us avoid these fatigue related injuries. Try adding [The Sit Right Widget](#), from the Chiropractor’s Association of Australia, which provides regular break-time prompts. [The Wellnomics WorkPace](#) program does the same with a few added benefits but requires payment after a one month free trial. [Workrave](#) is another free program prompting micro-pauses. [Ontario Ministry of Labour](#) suggests taking regular breaks from your computer or office chair to perform other work of about five minutes each hour. When paired with stretching / exercising, these short breaks were associated with improved productivity and reduced fatigue.



Use these links to explore the above points in more detail to find out how you can: [Manage the risk of fatigue in the workplace](#) with Safe Work Australia, understand ideal [napping](#) with The National Sleep Foundation and grasp the [Science of Sleep](#) with the TAC.



MANAGE YOUR TRANSITION TO NIGHTSHIFT

Getting a few extra hours of quality sleep before starting nightshift can make a big difference to your performance and your health. Here are some specific actions you can take to ease yourself into the night-time schedule.



EASE INTO NIGHT SHIFT. Preparations for a transition to nightshift should start early. Adjusting to your new nightshift schedule can wreak havoc on your circadian rhythm (your body clock or sleep/wake cycle) if you kick it off without warning. Ideally, 2 – 3 days will give your body time to adjust and reduce your fatigue levels as you start your roster.

CHANGE YOUR SLEEP PATTERN: As you get closer to your new nightshift roster, begin altering your regular sleeping patterns to reflect the new one. Rolling forward is typically easier to adjust to – this means staying up later rather than getting up earlier. With your 2- 3 day preparation time, begin adjusting your schedule towards your new timetable.

Case Example: How to prepare for your night shift on Sat (week 1)

	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Week 1	D	D	L	1. L	2. L	N	N
Week 2	N	L	L	L	L	L	L
Week 3	L	N	N	N	N	L	L
Week 4	L	L	D	D	D	D	D

1. Thursday night, stay up as late as possible and sleep in the next day.
E.g. 2am bedtime and try to sleep until 10am on Friday
2. Friday night, stay up as late as possible and sleep in the next day.
E.g. 4am bedtime and try to sleep until Noon on Saturday

Example shows: 12-hour schedule D = Day Shift N = Night Shift L = Leave Day



PLAN FOR YOUR SOCIAL LIFE: Prior to slipping into your night-time roster, start organising your ‘weekend’ and social calendar. Being prepared for your days off requires a different plan when you work nightshift. Ideally, organise for events, birthdays and gatherings to be late in the afternoon/evening. If you’re heading straight back into your nightshift roster, after a short break, try to keep your sleeping habits as similar as possible to your shift to keep your sleep deficit to a minimum. Trying to adjust back to a daytime schedule for a 2 day break will alter any patterns you had created with your prior preparation time.



ADDITIONAL RESOURCES

TECHNOLOGY AND EXPERTISE TO ELEVATE SAFETY PERFORMANCE

If you believe fatigue is impacting you and your workplace, there are numerous tools available to help you see, mitigate and manage risk.

[CAT® SMARTBAND](#): A personal fatigue monitor for operators; this wearable technology is designed to help you understand the connection between sleep, fatigue and accident risk on and off the job site.

[FATIGUE WEBINARS](#): Discover the tools and resources allowing you to see, mitigate and manage fatigue in the workplace. Learn from experienced consultants as they answer your fatigue questions live and make the resources available for you to watch on-demand.

[ON-SITE WORKSHOPS](#): Designed to help you and your team understand your challenges and build a plan for improvement. Workshops are designed to engage the workforce and take people through an understanding of fatigue, the impacts, risks and strategies to mitigate the impact.

[SAFETY PERCEPTION SURVEY \(SPS\)](#): Determine the current risk profile of your organisation using the SPS to understand the cultural drivers within your business. Create a strategic improvement plan aligned to your specific business needs and benchmark your results against world-class safety organisations.

To speak with a fatigue expert or find out more information, email: safetyservices@cat.com



Ultimately, combatting fatigue can work in the short term, but fatigue isn't something you can keep at bay indefinitely. The cumulative adverse consequences to your health – both physical and mental, can impact the quality of your life and create innumerable health problems. On the positive side, however, managing fatigue when at work or whilst driving improves your safety and the safety of everyone around you.

SAFETY SERVICES

Wherever you are on your journey to zero, we have tools to help you build engagement, accountability and operational excellence.

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