

# SLEEPY DRIVING

Sleepy driving is a serious problem that can lead to car crashes. Sleepiness causes motor vehicle accidents because it impairs concentration and can lead to the driver falling asleep at the wheel.

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Important aspects of driving impairment associated with sleepiness are reaction time, vigilance, attention and information processing. The exact prevalence is not known in Singapore. Sleepiness-related crashes are an under-recognised problem and may be categorised as fatigue and inattention.

Although society today gives sleep less priority than other activities, sleepiness and performance impairment are responses of the human brain to sleep loss/deprivation. There is currently nothing that can reduce the human need for sleep. Microsleeps, or involuntary intrusions of sleep or near-sleep, can overcome even the best intentions to remain awake.

Microsleeps can overcome your best efforts to stay awake.



## ACCIDENT CHARACTERISTICS

A typical crash related to sleepiness has the following characteristics:

- It occurs during late night/early morning or mid-afternoon.
- The crash is likely to be serious.
- A single vehicle leaves the roadway.
- The driver does not attempt to avoid a crash.
- The driver is usually alone in the vehicle.

## RISKS FOR SLEEPY DRIVING CRASHES

- **Sleep loss**

The need for sleep varies among people - sleeping eight hours per 24-hour period is common, and seven to nine hours is needed to optimise performance. Sleeping less than four consolidated hours per night impairs performance on vigilance tasks. Acute sleep loss, even the loss of one night of sleep, results in extreme sleepiness.

The effects of sleep loss are cumulative. Regularly losing one to two hours of sleep a night can create a 'sleep debt' and lead to chronic sleepiness over time. Only sleep can reduce sleep debt. Sleep loss can be work-related or a lifestyle choice.

- **Sleep quality**

The quality of sleep is also important. Sleep disruption and fragmentation lead to inadequate sleep and can negatively affect functioning. Sleep fragmentation can be caused by illness, including untreated sleep disorders.

Disturbances such as noise, young babies, children, activity and lights, a restless/snoring spouse or job-related duties (e.g. workers who are on call) can interrupt and reduce the quality and quantity of sleep.

- **Driving patterns**

Late-night driving between midnight and 6 am, driving in the mid-afternoon hours and driving for longer periods without taking a break.

- **Use of sedating medications,** especially prescribed anxiolytic hypnotics, tricyclic antidepressants, and some antihistamines.

- **Untreated or unrecognised sleep disorders**, especially sleep-related breathing disorders, obstructive sleep apnoea syndrome and narcolepsy.
- **Consumption of alcohol**, which interacts with and adds to drowsiness.

A combination of these factors increases crash risk substantially.

## WHY SLEEPY DRIVING ACCIDENTS HAPPEN

Sleepiness leads to accidents because it impairs human performances that are critical to safe driving.

People can use physical activity and dietary stimulants to cope with sleep loss and mask their level of sleepiness. However, when they sit still to perform repetitive tasks like driving, sleep comes quickly.

Sleepiness leads to:

- Slower reaction time: At high speeds, delay in reaction time can have a profound effect on crash risk.
- Reduced vigilance.
- It takes longer for information on the roads to be integrated and processed.



Sleepiness leads to slower reaction time.

## PEOPLE AT HIGHEST RISK

- Young people (ages 16 to 29), especially males
- Shift workers whose sleep is disrupted by working at night or working long or irregular hours
- People with untreated sleep apnoea syndrome (SAS) and narcolepsy

## ASSESSMENT FOR CHRONIC SLEEPINESS

The Epworth Sleepiness Scale (ESS) is an eight-item, self-report measure that quantifies individuals' sleepiness by their tendency to fall asleep 'in your usual way of life in recent times' in situations like sitting and reading, watching TV, and sitting in a car that is stopped for traffic.

People with a score between 10 to 14 are considered moderately sleepy, whereas a score of 15 or greater indicates severe sleepiness.

## PREVENTIVE MEASURES

To prevent sleepy driving and its consequences, you need to know the benefits of behaviours that help you avoid becoming sleepy while driving.

These include:

1. Getting sufficient sleep and taking a short nap (15 to 20 minutes) when sleepy
2. Not drinking alcohol when sleepy
3. Limiting driving between midnight and 6 am
4. Taking caffeinated drinks/food e.g. coffee
5. Detection and treatment of illnesses that can cause excessive sleepiness like sleep-related breathing disorders, obstructive sleep apnoea syndrome and narcolepsy

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