

## **Driver Fatigue is an important cause of road crashes.**

Driver fatigue is a very dangerous condition created when a person is suffering symptoms of fatigue while driving, often resulting from the hypnotic (Inducing sleep; soporific or hypnosis) effect especially during night time (peak levels at night can be 10 times daytime levels) driving either falling asleep at the wheel or so exhausted they made serious – and fatal – driving errors.

However the early hours of the morning and the middle of the afternoon are the peak times for fatigue accidents. Also long journeys on monotonous roads, such as motorways, are the most likely to result in a driver falling asleep. Sunlight signals or bodies when to be awake. But even deprived of any natural light, we will still feel a surge of fatigue in the middle of the night and to a lesser extent, in the middle of the afternoon. The latest research also shows the grogginess right after you wake up can also be dangerous.

There's a strong possibility that the driver fall asleep and run off the road. Tiredness and fatigue can often affect your driving ability long before you even notice you're getting tired. Fatigue related crashes are often more severe than others because driver's reaction times are delayed or they have failed to make any maneuvers to avoid a crash. Symptoms of driver fatigue include heavy eyelids, frequent yawning, a drifting vehicle that wanders over road lines, varying vehicle speed for no reason, misjudging traffic situations, and seeing things "jump out" in the road, feeling fidgety or irritable and daydreaming.

A study by National Central University in Jhongli, Tatung University, Taiwan; recently reported at New Scientist magazine that "driving for just 80 minutes without a break can make motorists a danger on the roads". They found that drivers who do not take frequent rest stops have slower reactions than those who break up long journeys.

People run a higher risk of succumbing to driver fatigue between 2am and 6am and during what is known as the "2pm slump". Studies show the number of accidents increase according to the time of day and the number of hours driven. High risk occupations include night-shift workers, airline crew, students, commercial drivers, medical staff, sales representatives and journalists.

Enforcement of duty cycle limitations; suppose bus drivers operating on irregular schedules suffer greater subjective fatigue and physiological stress than drivers operating on a regular schedule. Service regulations in Canada reported that after 24 hours of duty, workers experience a 25% decrease in performance.

A new in-depth on-scene study last year in the Vehicle Safety Division, at Chalmers University of

Technology, in Sweden reveals that driver fatigue, slippery roads, and inexperience could be just as important and should be factored into the design of new vehicle safety features.

### **Stats of Road Crashes as a cause of driver fatigue:**

Recent international research has suggested that driver fatigue is under- represented in accident statistics, and some estimates show that it could be a contributing factor in twenty to twenty four percent of fatal crashes.

A study conducted by the Adelaide Centre for Sleep Research shown that drivers who have been awake for 24 hours have an equivalent driving performance to a person who has a BAC (blood alcohol content) of 0.1 g/100ml, and is seven times more likely to have an accident.

### **In the USA:**

In the USA a series of studies by the National Transportation Safety Board (NTSB) have pointed to the significance of sleepiness as a factor in accidents involving heavy vehicles.

The NTSB came to the concluded that 52 per cent of 107 single-vehicle accidents involving heavy trucks were fatigue-related; in nearly 18 per cent of the cases, the driver admitted to falling asleep.

Summarizing the US Department of Transportation's investigations into fatigue in the 1990s, the extent of fatigue-related fatal accidents is estimated to be around 30%. Research shows that driver fatigue is a significant factor in approximately 20% of commercial road transport crashes and over 50% of long haul drivers have fallen asleep at the wheel.

Recently The National Highway Traffic Safety Administration (NHTSA) estimate that there are 56,000 sleep related road crashes annually in the USA, resulting in 40,000 injuries and 1,550 fatalities.

An analysis of road accidents between 1990 and 1992 in North Carolina found 5,104 accidents (0.5%) in which the driver was judged to have fallen asleep. A survey of 205 drivers in another State found that 31% admitted having dozed off at least once while driving during the preceding twelve months.

One study calculated that 17% (about 1 million) of road accidents are sleep related. A 1995 study suggested that 2.6% of accidents caused by driver inattention were due to fatigue

A study of road accidents on two of America's busiest roads indicated that 50% of fatal accidents on those roads were fatigue related. Another study claims that 30% - 40% of accidents involving heavy trucks are caused by driver sleepiness. Truck driver fatigue was a particular problem in single-vehicle fatal crashes. In 2002 alone the Total Cost of Fatigue-Related Crashes (in 1999 Dollars) exceeded \$2.3 billion.

Rubbernecking, driver fatigue (12%) and looking at scenery were some of the leading causes of

distraction-related traffic crashes, according to a study in 2003 over more than 2,700 crash scenes involving distracted drivers and nearly 4,500 drivers; conducted by Virginia Commonwealth University for the Virginia Department of Motor Vehicles.

**In 2007 fatigue was involved in at least 18% of fatal accidents and accounts for about 7% of all accidents.**

The Government's Road Safety Strategy, "Tomorrow's Roads: Safer for Everyone" identifies driver fatigue as one of the main areas of driver behavior that needs to be addressed if the target for reducing the number of people killed and seriously injured in road accidents by 40% by 2010 is to be achieved.

**In Australia:**

One study based on coronial and police reports found that fatigue played a part in only 5 per cent of fatal crashes in 1988. A more recent survey (for 1994) based on coronial and police reports found that fatigue played a part to about 18 per cent of fatal crashes. It included not only those crashes in which police identified fatigue as a cause, but also cases where the crash description suggested 'loss of concentration' had been a contributing factor. A third review found that around 30 per cent of rural crashes in Western Australia could be attributed to fatigue. Fatigue is a major cause of crashes in Victoria resulting in some 70 deaths and approximately 500 serious injuries each year. Recently research shows fatigue is a contributing factor in around 20-25 per cent of all fatal car accidents in Victoria.

**In Canada:**

A collaboration study by Moller of the University Health Network and the University of Toronto Sleep Research Unit found that driver fatigue is a serious road safety issue that kills 400 Canadians every year. Also, according to a 2005 study, one in five Canadians - 4 million people - admitted to nodding off or falling asleep at the wheel at least once in the previous 12 months.

**In UK, Ireland, New Zealand, Germany:**

In the UK alone, almost 45,000 people are killed, or seriously injured in road accidents every year, and road safety experts consider driver fatigue is a major cause. Driver fatigue is shown to be responsible for more than 20% of traffic accidents in UK.

The Road Safety Authority (RSA) of Ireland Chief Executive Noel Brett said scientific studies prove that driver fatigue is as dangerous as driving when over the drink drive limit and warned recently that one of five driver deaths in Ireland were as a result of driver fatigue, when a motorist begins to nod off behind of the wheel of a car.

A study in New Zealand of 370 heavy motor vehicle crashes in 1997, found that driver fatigue was listed

as a contributing factor in 7% of accidents. In 2006 at least 40 people lost their lives while almost 1000 people were injured because they, or the driver of the car they were in, succumbed to fatigue.

According to an investigation carried out by insurance companies in Germany, fatigue is responsible for one in four fatal motorway accidents. Another study of motorway accidents in Bavaria estimated that 35% of fatal motorway crashes were due to reduce vigilance (driver inattention and fatigue).

### **Key Messages for prevention:**

Avoiding driver fatigue on long trips. The biggest mistake people make is not stopping when they are tired, thinking they can make it. Drivers should give themselves plenty of time to get to their destinations and schedule in regular breaks.

For long trips plan in advance so you know where you are going to take a break. Don't work a full day and then driving for hours before leaving a good night's sleep to avoid the cumulative effect of not getting enough sleep.

Take a break at least every 2 hours.

Plan to stay somewhere overnight if you are going on a long journey and avoid heavy foods.

Share the driving - and make sure to take rest when you are not driving.

Try not to drive when you would normally be asleep (early mornings and late nights).

Don't drink and drive. Not only does alcohol severely impair your driving ability, but it also acts as a depressant. Just one drink can induce fatigue. Also, avoid smoking when you drive. Smoke's nicotine and carbon monoxide hamper night vision. If there is any doubt, have your headlights properly aimed.

Misaimed headlights blind other drivers and reduce your ability to see the road. Being seen is as important as seeing.

Caffeine (coffee, cola drinks) provides a quick, but short-lived improvement in alertness. So, to capitalize on its benefits, one should use it only when a boost is needed. Drink water, eat fruit and healthy snacks rather than fatty and sugary food.

If you are taking any medication, check whether it causes drowsiness.

Use air conditioning to keep you more alert and will help avoid frustration and stress.

Adjust driving seat to an upright position is to ensure the base of your wrists can make contact with the top of the steering wheel.

Additionally recently New Zealand's Accident Compensation Corporation (ACC) Programme Manager of

road safety advised for busting fatigue are: "**A power nap of only twenty minutes (A brief power-nap) can boost energy levels as well as improve your driving skills and alertness**". The National Sleep Foundation also recommends taking a nap for 15-45 minutes.

**You should look out for these signs when you are driving (long and short trips):**

you keep yawning ,day-dreaming, wandering in lane

your reactions unintentionally speeding up or slowing down. Anxiety, mood states, personality and temperament as factors that may possibly affect driver fatigue.

you feel stiff your eyes feel heavy

you find you are day dreaming

you wander over the centre line or

on to the edge of the road

you don't remember driving the last few miles or cannot remember the last few minutes or seconds.

*Source Smartmotorist.com*