

ACCIDENTS –

CAN WE MAKE THEM A THING OF THE PAST?



Jonathan Crouch Looks at How Road Accidents Can Be Avoided. Through Careful Planning, Through Correct Seating, Through High Technology & Through Crash-Proof Design

In a recent independent survey, an alarming one on ten motorists admitted to having momentarily fallen asleep at the wheel. If like me, you do a lot of motorway miles, you won't have any trouble believing that. Driving when tired obviously increases the risk of an accident, and according to the DETR (Department of the Environment, Transport and the Regions), driver fatigue is the principal factor in 10% of all road accidents. Nevertheless, only 17% of motorists in the survey said they take a break on a long journey because they feel tired.

It seems that half the drivers questioned choose to combat tiredness by opening a window, chatting to passengers or turning up the radio. I've done it myself and it doesn't really work. Experts will tell you that stopping to take a short walk is definitely a better idea. In fact, the DETR recommends drivers take a short break of 15 minutes after every two hours of driving: how many of us do that?

However, the best way to ensure you stay healthy on a long drive is to, first of all, make sure you're not tired before you set off, take regular breaks on the way and, if you do feel drowsy, stop in a safe place - not the hard shoulder - and have a short nap.

Another source of driving fatigue is poorly designed seating. According to a study by the Osteopathic Information Service, 80% of motorists suffer from back pain and one in four will suffer at worst, permanent discomfort from driving in a poor position. But the importance being placed by new car buyers on the support the driver's seat offers is alarmingly low, with as few as 30% of people questioned having taken it into consideration when choosing their new car.

Correct seating while driving is imperative to help prevent the spine and muscles from being placed under continuous stress. However many cars do not provide the support that is needed to achieve this, particularly as everybody has different ergonomic needs depending on their physical form.

To help prevent the fatigue and back pain caused by bad posture when driving, expert advice suggests: Don't slouch and try to keep your back straight.

If you are driving on a long journey stop at regular intervals to stretch your legs and relax - when kept in one position for too long muscles tend to stiffen up and become strained.

On long journeys stretch both arms out over the centre of the steering wheel and wiggle your fingers to help relax key muscles from time to time. Ensure you are positioned for maximum comfort - your hips and knees should be well flexed, with arms relaxed and bent to the wheel.

Alternatively you could install a specialist seat in your car. Sports seat makers Recaro have, for example, launched something called the Orthopaed to the British market. This seat has been designed to alleviate problems caused by prolonged sitting and poor posture and works by providing support for the lumbar vertebrae - the curved sections of the lower spine, which needs special support when a driver is in a seated position.

When using the Recaro Orthopaed, weight is evenly distributed leaving the vertebrae and muscles relaxed - an important consideration if you want to prevent injuries and prevent fatigue on long journeys.

You can take all these measures of course – buy the right seat, take plenty of respite stops, everything – but there's no accounting for the unexpected. Or is there? Car maker Nissan reckons new technology could provide extra safeguards on our ever more dangerous roads. They're now developing systems that can predict when a driver is about to make a dangerous manoeuvre, such as overtaking into oncoming traffic.

By monitoring behaviour, the car builds up a picture of what the driver will do next, and if need be activates warning or override systems to prevent an accident. Driving simulation tests showed the Nissan system to be nearly 100 per cent accurate at predicting drivers' moves for 12 seconds ahead.

Nissan researcher Andrew Liu, the man responsible for the project, reckons that this research is a very exciting development. It all began, he says, with the concept of tracking eye movement, in order to detect drowsiness. "Our virtual back seat driver will stop drivers making potentially fatal mistakes and be a major contributor to road safety."

The predictive system relies on the fact that driver behaviour can be broken down into long chains of simple commands and actions. To make its prediction the car uses a computer to process information from sensors on the steering wheel, accelerator and brake. When a pattern emerges, the system predicts the most likely action to follow.

The prediction technique is similar to that used in speech recognition PC software. The system continuously updates the probabilities of next actions, so it can adapt to new drivers' styles.

According to the Department of Transport, there were 236,923 road accidents in the UK last year caused by driver error, which resulted in 3,421 deaths.

Typical of the kind of accident that makes up those grim statistics happened to Jane Reeve of Suffolk, who experienced a head on collision with a truck while driving her 1996 Mitsubishi Space Wagon. With an estimated closing speed of 80mph, according to police reports, the anticipated outcome was likely to be catastrophic.

"I honestly thought I was going to die as I turned the corner and saw the truck thundering towards me on the wrong side of the road, but the outcome was quite extraordinary," explained Jane. On board the Space Wagon were Jane's two daughters aged 11 and 10 and their two friends of similar age.

Despite the enormous frontal impact, Jane and her passengers suffered only relatively minor injuries. Jane had a cracked rib and a chipped bone above her eye. One child had a fractured leg and of course all had severe bruising, but there was no long-term physical damage. All were wearing their seat belts and the driver's airbag deployed to cushion the impact.

"To walk away from such a violent impact was nothing short of a miracle," said Jane. "In the eyes of the professionals who attended the scene, including the police and ambulance services, it was the design of the Space Wagon that allowed us to escape virtually unscathed. We're grateful to Mitsubishi for building such a safe vehicle - this is our third Space Wagon and we couldn't imagine replacing our car with anything else."

Recent New Car Assessment Programme (NCAP) tests reveal the Mitsubishi Space Wagon to have secured a Three-Star rating out of Four for impact protection, but in the eyes of Jane Reeve and her family, the performance was nothing short of Five-Star