

Asleep at the wheel: who's at risk?

Careful assessment of car accident risk in patients with sleep disorders should guide advice

ALCOHOL AND EXCESSIVE SPEED, often combined with inexperience and youthfulness, are the most widely recognised causes of motor vehicle accidents (MVAs). There is, however, increasing recognition that fall-asleep MVAs contribute significantly to road accident statistics.¹⁻⁵ The typical fall-asleep accident involves a sole driver driving at night or in the early afternoon "siesta" period at relatively high speed.¹ As with other causes of MVAs, fall-asleep accidents are more common in men under 30 years.^{1,3,5}

In this issue (*page 396*), Desai and colleagues⁶ describe seven cases of fall-asleep fatal MVAs, and highlight the inconsistent way in which the New South Wales legal system dealt with these cases. They also draw attention to the role of sleepiness and sleep disorders in these cases, five of which involved under-treated or unrecognised obstructive sleep apnoea.

These case studies are, by any measure, tragic, involving as they do serious injury, loss of life and, in several instances, imprisonment of the driver. They raise the question as to what role the medical profession might have in the prevention of such accidents.

Obstructive sleep apnoea is the most common clinical sleep disorder leading to daytime sleepiness. About 26% and

10% of the Australian adult male population have ≥ 5 and ≥ 10 sleep apnoeas or hypopnoeas per hour, respectively.⁷ However, it is important to maintain perspective when thinking about this issue. First, while obstructive sleep apnoea is very common, most people with sleep apnoea will never have an accident due to sleepiness or be at significant risk for an accident.⁸ The relative risk for MVAs among all people with obstructive sleep apnoea is about 2-7 compared with the general population. This seems high, but is similar to the increased risk associated with driving at night,¹ or for young drivers compared with older drivers. Second, sleep restriction (lack of sleep) is at least as common and is possibly of greater concern with respect to fall-asleep MVAs.⁵ The drivers with sleep apnoea described by Desai and colleagues all had mild-to-moderate obstructive sleep apnoea, which normally would not be associated with a high risk of an MVA,⁹ but, as acknowledged by the authors, the commercial drivers in particular were probably also sleep-deprived. In one case, prior sleep deprivation appeared to be the sole cause of the fall-asleep MVA.

Nevertheless, there are patients with obstructive sleep apnoea who constitute a real and immediate risk to other road users. How does a medical practitioner identify and

Assessing the effect of a patient's sleepiness on their driving

- Ask about instances of falling asleep while driving (eg, wheels on the verge or hitting the "cats eyes", lane drifting, previous fall-asleep crash)
- Seek corroborative history from the spouse or partner
- Ask patient to fill out the Epworth Sleepiness Scale questionnaire,¹⁰ which takes about five minutes. It requires patients to rate their chance of dozing in eight specific situations. The normal value is <10 out of a maximum possible score of 24. A score >15 indicates severe sleepiness and has been associated with substantially increased risk of fall-asleep MVAs.³
- Consider additional causes of daytime sleepiness. Sleep restriction is very common and sleeping for less than five or six hours for even one night significantly increases the risk of a fall-asleep MVA.^{3,5}

advise these patients, to try to prevent the tragedies so graphically described by Desai et al? The approach I would advise is as follows.

First, establish good rapport with your patient and his or her family. A confrontational approach or immediately raising the possibility of revoking the driver's licence will lose you the patient. The emphasis should be on maintaining doctor-patient confidentiality, appealing to the patient's social responsibility, and the fact that, with appropriate diagnosis and treatment, most patients with sleep disorders can drive unrestricted.

Second, make an assessment about the level of sleepiness and its possible impact on driving risk in your patient (Box). It would be unreasonable and totally impractical to send all patients with obstructive sleep apnoea for daytime sleep latency tests to determine level of sleepiness.

Third, consider your patient to be in a "high-risk" category if there is a history of (1) a recent fall-asleep accident, (2) repeated "near-miss" fall asleep episodes while driving, (3) repeatedly falling asleep in other active situations (eg, during conversation, at meal table), or if your patient has a very high score on the Epworth Sleepiness Scale.¹⁰ Current Australian guidelines for healthcare professionals¹¹ indicate that such "high-risk" patients should be instructed to stop driving immediately while referral to a sleep specialist and further investigation and treatment is arranged. If you consider that your patient is sleepy but does not fit the above "high-risk" categories, it may nevertheless be wise to advise him or her to reduce the risk of an MVA by avoiding night or country driving and by abstaining from all alcohol before driving.

Fourth, keep careful notes. Ideally, all patients with obstructive sleep apnoea should be informed verbally, and in writing (eg, a pamphlet) if possible, about the increased risk of fall-asleep MVAs and the need to exercise care while driving.

Special provisions apply if your patient wishes to apply for or renew a commercial or heavy vehicle driver's licence. Current Australian guidelines for healthcare professionals¹² recommend that the licence be withheld if obstructive sleep

apnoea (of any severity) is diagnosed, unless and until it is successfully treated. A conditional licence should be recommended (ie, restrictions imposed) if the driver has sleep apnoea symptoms of any severity until these symptoms are investigated. Thus, the burden of proof of driver safety has been deliberately increased for commercial drivers who have or are suspected of having obstructive sleep apnoea.

Current uniform national driver licensing laws in Australia place the legal responsibility on drivers to notify their State/Territory licensing authority that they have a medical condition likely to affect their driving. If effective treatment for obstructive sleep apnoea (or any other sleep disorder) cannot be instituted within a reasonable time frame, and if your patient refuses to restrict driving as advised, you should remind him or her of this obligation.

Finally, what is your ethical and legal responsibility if you have reason to believe that, against your advice, your patient is continuing to drive while seriously impaired? I believe at this point public safety takes precedence over patient confidentiality. Also, you could be found liable in the case of serious injury or death in the event of a fall-asleep accident should you fail to take reasonable steps to prevent your patient driving in a dangerous manner. You should advise the patient that, in the interests of public safety, you must inform the licensing authority. This action can and will annoy some patients, but legislation in all Australian States and Territories (Western Australian legislation is under review) provides medical practitioners with legal indemnity under these circumstances. The National Road Transport Commission will soon release new medical standards for drivers of all vehicle types. These will provide specific advice for medical practitioners relevant to licensing and driver safety across a wide range of medical conditions, including obstructive sleep apnoea.

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