



Medicines and Driving

For many, driving is considered a common, every day activity, with the risks of engagement often underestimated. The introduction of road safety interventions, such as the compulsory use of seatbelts and random breath testing, have made driving safer¹, however roads in turn have become busier. In NSW, there are currently more than 6 million registered motor vehicles, which is in stark contrast to the estimated 4000 motor vehicles in 1910¹.

Motor vehicle accidents, injury, and death, can be associated with impaired driving², with many factors and variables potentially resulting in driver impairment. This can include the use of certain medications, and pharmacists should be aware of, and mindful of the potential impact of both prescription and over-the-counter medicines on driving ability.

What is the impact of medicines on driving skills?

In general, safe driving requires the three following functional abilities – vision, cognition, and motor function³. Medicines which can affect some or any of these skills, can have the potential to impair driving ability^{3,4}. There are a range of factors, which can impact the degree to which this may occur⁵, which may include:

- the patient's medical condition/s
- the strength and time of the dose
- whether the medication is being introduced as initial treatment, or recommencement
- whether the dosage has been increased
- whether it has been taken in combination with other substances, such as other medications, illicit substances, alcohol, and some complementary medicines

Examples of common side effects from medicines which could affect an individual's driving ability include^{5,6}:

- drowsiness, fatigue, or sedation
- feelings of dizziness, light headedness, fainting
- confusion, forgetfulness, difficulty concentrating
- blurred or double vision
- muscle weakness, stiffness or spasms
- shakiness, unsteadiness, decreased coordination, loss of balance
- hallucinations, changes in behaviour or mood.

Health professionals, including pharmacists, involved in the treatment of care of a patient, are able to assist in preventing road accidents by reinforcing the potential effects medicines can have on an individual's driving ability.

Which medicines can have an impact on driving ability?

There are medicines, both over the counter and prescription based, which may have the potential impact on an individual's driving ability.

Over-the-counter medicines

There are a range of over-the-counter (OTC) medicines which can have an impact on driving ability. Most commonly, these include medicines used to treat coughs and colds, allergies, and prevent motion sickness, with the main side effect of these medicines causing impairment being sedation⁷.

Sedating antihistamines are the most common ingredients contained in OTC medicines, which have an association with driver impairment⁸. Along with sedation as their main side effect, sedating antihistamines can also cause blurred vision, dizziness, confusion, and psychomotor impairment⁸.

Other OTC medicines that may impair driving ability can include non-steroidal anti-inflammatory drugs (NSAIDs), cough suppressants, decongestants, and antidiarrhoeals. These medicines can cause drowsiness, dizziness, impaired motor function, irritability, and nervousness – all of which, can impact any of the three functional abilities required to be able to drive safely.

Prescription medicines

Prescription medicines, which are most commonly associated with impairment of driving ability, are those which affect the central nervous system (CNS). These include, but are not limited to, sedatives/hypnotics, some antidepressants, some antipsychotics, opioids, and anticonvulsants⁹.

Benzodiazepines have been associated with a significant proportion of motor vehicle accidents, and have been found in approximately 4 per cent of fatalities, and 16 per cent of injured drivers taken to hospital¹⁰. This risk is increased in polypharmacy settings, particularly when taken in combination with alcohol, or other sedating drugs such as opioids, like methadone.

Opioid Substitution Treatment (OST) and Driving

From the Austroads "Fitness to Drive" Guidelines¹⁰, there is little evidence to support opioid analgesics, such as hydromorphone, morphine or oxycodone, having a direct adverse effect on driving behaviour. It is recognised that cognitive performance is reduced during the early

phase of treatment, which is predominantly associated with their sedative effects, however neuroadaptation is rapidly established. From the Austroads guidelines¹⁰, it is highlighted that this means that patients on a stable dose of an opioid may not have a higher risk of a crash.

With specific reference to medications used in opioid substitution treatment, which include methadone and buprenorphine, the Austroads "Fitness to Drive" guidelines, state the following:

"...patients on a stable dose of an opioid may not have a higher risk of a crash. This includes patients on buprenorphine and methadone for their opioid dependency, providing the dose has been stabilised over some weeks and they are not abusing other impairing drugs."

Pharmacists' role in counselling about medicines and driving

The risks associated with driving are often underestimated, due to its nature as being recognised as a normal, daily activity for many. Many people often ignore written warnings on labels and packaging, about drowsiness and its impairment on driving ability¹¹.

Pharmacists have an important role in helping to prevent motor vehicle accidents, by educating health consumers about the effects their medicines can have on their ability to drive. This includes taking the opportunity to remind patients about the potential for prescription and OTC medicines to affect their driving ability. This information should be reinforced regularly, and could be done so during various interactions, such as the supply of repeat prescriptions.

As members of the primary health care team, pharmacists have the ability to help their patients improve their safety on their roads; reducing harm to themselves, and to the community.

- ¹ Transport for NSW: Centre for Road Safety (2018) Fatality trends Accessed from: <http://roadsafety.transport.nsw.gov.au/statistics/fatalitytrends.html> [Viewed 9th April 2018]
- ² Ivers, T., & White, N. D. (2016). Potentially Driver-Impairing Medications: Risks and Strategies for Injury Prevention. *American Journal of Lifestyle Medicine*, 10(1), 17-20.
- ³ Lococo K, Tyree R. Medication-related impaired driving [revised Sept 2011]. Medscape Education Pharmacists. At: <http://www.medscape.org/viewprogram/31244>
- ⁴ Healthdirect (2018) Medicines and driving Accessed from: <https://www.healthdirect.gov.au/medicines-and-driving> [Viewed 9th April 2018]
- ⁵ CARRS-Q (August 2015) Medication and driving Accessed from: <https://research.qut.edu.au/carrsq/wp-content/uploads/sites/45/2017/04/Medications-and-Driving-screen.pdf>
- ⁶ Lococo K, Tyree R. Medication-related impaired driving [revised Sept 2011]. Medscape Education Pharmacists. At: <http://www.medscape.org/viewprogram/31244>
- ⁷ Lococo K, Tyree R. Medication-related impaired driving [revised Sept 2011]. Medscape Education Pharmacists. At: <http://www.medscape.org/viewprogram/31244>
- ⁸ Pharmaceutical Society of Australia (2014) InPHARmation: Medicines and driving Accessed from: https://www.psa.org.au/download/self-care/4271_TAC_inPHARmation_September_web.pdf
- ⁹ Royal Australian College of General Practitioners (RACGP) 23rd April 2018 Assessing Patients for Fitness to Drive
- ¹⁰ Austroads (2016) Assessing Fitness to Drive for commercial and private vehicle drivers: Medical standards for licensing and clinical management guidelines (as amended up to August 2017)
- ¹¹ Williamson, A., Smyth, T. L., Sheehan, M. C., & Siskind, V. (2011). Medications and driving: community knowledge, perceptions and experience.

