How to Treat Quiz

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NEED TO KNOW

Driving is a complex task requiring the integration of sensory, motor and cognitive functions.

The assessment of an individual for licensing requirements includes a detailed medical history, physical examination and additional tests where appropriate.

Specialist advice may be required to confirm that an individual meets medical criteria for licensing purposes.

There are different standards for private and commercial drivers; commercial standards include all people transporting passengers for hire or reward.

Any recommendation that someone is unfit to drive, because of any medical condition, should be made with as much information as possible.

Assessing fitness to drive

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This information was correct at the time of publication: 25 June 2021

INTRODUCTION

DRIVING is a complex task requiring the integration of sensory, motor and cognitive functions. The exact skills and tasks required depend on the type of vehicle being driven, the driver's experience, previous training, the road environment and the weather.

In Australia in 2018 there were an estimated 19 million registered motor vehicles: more than 14 million were passenger vehicles, about 3.5 million were freight vehicles, and about one million were other types (including motorbikes and buses). On average, passenger vehicles travelled 12,600km per year (about 242km per week) and articulated trucks 79,400km per year (about 1527km per week).[1]

People drive for many reasons, including leisure, getting to and from work and for work itself.

To drive, the driver first receives situational information from the visual and auditory systems. The driver uses this information to make decisions, employing cognitive functions including attention, memory, judgement and decision making. Decisions enacted by the musculoskeletal system then affect the vehicle.

To drive a vehicle safely, the driver needs multiple physical, cognitive and psychological systems to function well (see figure 1).

Australia has two medical standards for assessing an individual's fitness to drive (AFTD): the private and the commercial. Based on the assessment, relevant recommendations can then be made to the licensing authorities.[2]

It is important to understand the type of driving that the patient does to ensure they are assessed against the appropriate standards; a higher standard of medical fitness is required for commercial driving. Commercial driving standards (see table 1) are used for drivers of heavy vehicles, and for smaller vehicles in certain situations.

Driving a car for work, or to and from work, does not make someone a commercial driver (see table 2). However, driving passengers for hire or reward does makes someone a commercial driver, regardless of the size of the vehicle. This applies to taxi drivers as well as part-time drivers for ride-share companies.

This How to Treat focuses on some of the common medical conditions that can affect licensing assessment decisions, how the conditions can affect driving safety, and how to perform a medical assessment. It covers the reasons for the Australian standards, and how GPs can use these to provide licensing authorities with consistent and appropriate recommendations regarding the fitness of a patient to drive.

HOW TO PERFORM A DRIVING ASSESSMENT

EACH state and territory in Australia has its own processes for completing a medical assessment for the purposes of providing information to its driving licensing authority.

The assessment consists of a questionnaire that allows the driver to self-declare any current medical conditions and previous specific diagnoses. There are also questions about alcohol and drug use to facilitate a more detailed assessment by the doctor, if appropriate.

The examination consists of basic physiological findings, including blood pressure and heart rate, as well as a broad examination of all relevant organ systems. Additional tests are required, including urinalysis, visual acuity, audiometry (refer a commercial driver for clinical testing if there is any concern about their hearing) and the Mini-Mental State Examination (MMSE) where appropriate.

If the questionnaire or examination raises concerns about driving safety, then further information from treating specialists, or additional testing, may be needed. In these circumstances, the recommendation regarding medical fitness may be delayed.

HOW TO USE THE STANDARDS

THE 2016 Austroads Assessing Fitness to Drive document for commercial and private vehicle drivers provides a detailed set of medical standards for the purposes of licensing requirements. Note that all decisions regarding the licensing of drivers in Australia are made by the driver licensing authority in the relevant state or territory. Medical practitioners can provide recommendations and advice to the licensing authority, but do not have the power to remove or reinstate a licence themselves.[2]

The introductory sections of the document provide information about the task of driving, the risks associated with medical conditions, and the legal responsibilities of all parties. They also provide an explanation of the evidence base and how it is used.

Part B of the document provides a comprehensive overview of multiple medical conditions, their relevance to driving, and the medical standards upon which licensing decisions are made.

It is advisable to be familiar with the document and its layout and use it regularly and consistently to ensure appropriate and defensible recommendations.

SPECIFIC MEDICAL CONDITIONS

Diabetes

IT is important to note that many people with both types 1 and 2 diabetes can safely drive.

The medical assessment of those with diabetes is required to ensure they continue to manage their condition and any complications such that the impact on driving risk is minimal.

There are several reasons why diabetes and its treatment – particularly if poorly controlled or, conversely, very tightly controlled – may affect the safety of a person performing driving tasks.[3]

The most obvious concern is incapacity because of hypoglycaemia, especially if the individual is not aware of their early warning symptoms. The crash risk is increased in patients with type 1 diabetes, and in some studies it is also increased in those with type 2 diabetes, although this is not repeated in all studies.[4,5]

Factors that appear to increase the risk of crashes include a history of hypoglycaemic events while driving, a history of severe hypoglycaemic events, the method of insulin delivery and infrequent self-testing before driving.[5]

Other risks include the effects of diabetes on vision (diabetic retinopathy), leading to similar risks as vision changes from other causes. Diabetic retinopathy can affect visual acuity and impact on driving safety.[6] Diabetic neuropathy may affect sensation in the feet and control of the pedals.[6] There is also increasing information suggesting that significant hyperglycaemia impairs cognitive functioning, and that this may impair driving ability.[7,8]

When assessing an individual with diabetes for the purpose of driving licence requirements, consider their condition, medication, adherence to medically recommended treatment, any complications and their history of hypoglycaemic events.

The AFTD standards consider patients with diabetes in three broad groups (see box 1).[2] It is important to note that these groups are not strictly based on the typical medical classifications of type 1 and type 2, but rather the type of treatment that is required.

In accordance with the AFTD standards, individuals with diabetes treated with diet and exercise only do not require any medical conditions listed on their driving licence (assuming they have no other relevant medical conditions) and may hold an unconditional private or commercial driving licence (see table 2).[2]

Patients with diabetes who are treated with glucose lowering medications other than insulin are assessed based on criteria similar to those for patients treated with insulin. A private driver may be eligible for an unconditional licence if there is no history of end-organ damage or a recent severe hypoglycaemic event, whereas all commercial drivers in this group would require a conditional licence based on information provided by an endocrinologist or consultant physician specialising in diabetes.

A person with diabetes who is treated with insulin is deemed unfit to hold an unconditional licence; they may be assessed for consideration of a conditional licence by either their treating doctor (for a private licence) or an endocrinologist or consultant physician specialising in diabetes (for a commercial licence). The assessing practitioner will consider the patient's history of severe hypoglycaemic events, current treatment regimen, awareness of hypoglycaemia and whether there is any end-organ damage.

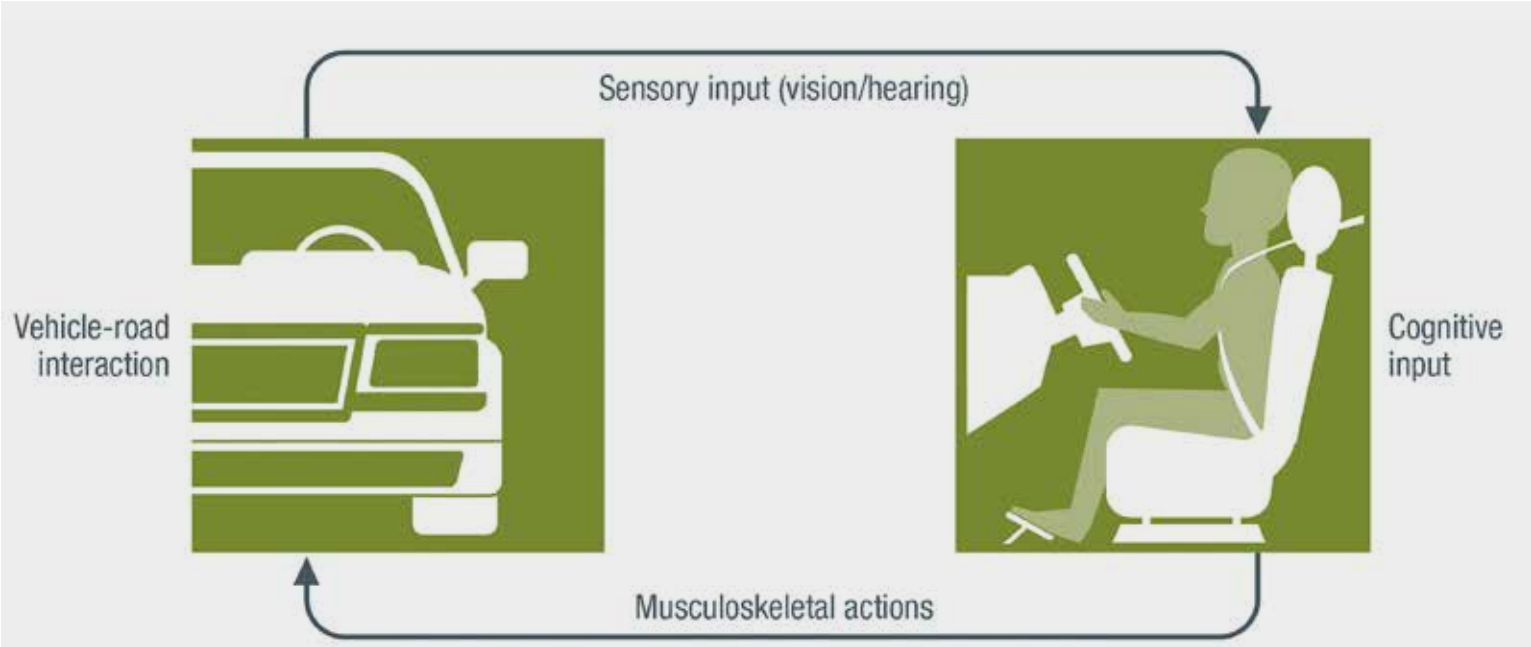

Figure 1. Multiple systems in the driver are needed to safely drive a vehicle.

REPRODUCED WITH PERMISSION, AUSTROADS ASSESSING FITNESS TO DRIVE FOR COMMERCIAL AND PRIVATE VEHICLE DRIVERS 2016[2]

Box 1. Diabetes groups in the AFTD standards

- Diabetes treated with diet and exercise alone.
- Diabetes treated with glucose-lowering medication other than insulin.
- Diabetes treated with insulin.

Source: Austroads Assessing Fitness to Drive for Commercial and Private Vehicle Drivers. National Transport Commission, 2016[2]

Table 1. Criteria for assessing commercial driving

National licence classes		Which standard to apply (private or commercial)
Motorcycle (R)	Motorbike or motortrike.	Private standards apply UNLESS driver holds or is applying for an authority to carry public passengers for hire or reward, in which case the commercial standards apply.
Car (C)	Vehicle not more than 4.5 tonnes GVM (gross vehicular mass) and seating up to 12 adults including the driver.	Private standards apply UNLESS: • driver holds or is applying for an authority to carry public passengers for hire or reward (e.g. taxi driver) • is undertaking a medical assessment as a requirement under an accreditation scheme • holds or is applying for an authority to hold a dangerous goods driver licence • holds or is applying to hold authority to be a driving instructor (may vary between jurisdictions). In these cases the commercial standards apply.
Light rigid (LR)	Any rigid vehicle greater than 4.5 tonnes GVM or a vehicle seating more than 12 adults, that is not more than 8 tonnes, plus a trailer of no more than 9 tonnes GVM.	
Medium rigid (MR)	Any two-axle rigid vehicle greater than 8 tonnes GVM, plus a trailer of no more than 9 tonnes GVM.	Commercial standards apply at ALL times.
Heavy rigid (HR)	Any rigid vehicle with three or more axles greater than 8 tonnes GVM, plus a trailer of no more than 9 tonnes GVM.	
Heavy combination (HC)	Prime mover + single semi-trailer greater than 9 tonnes GVM and any unladen converter dolly trailer.	
Multiple combination (MC)	Heavy combination vehicle with more than one trailer.	

Note:

- A person who does not meet the commercial vehicle medical requirements may still be eligible to retain a private vehicle driver licence. In such cases, both sets of standards may need to be consulted.
- The standards are intended for application to drivers who drive within the ambit of ordinary road laws. Drivers who are given special exemptions from these laws, such as emergency service vehicle drivers, should have a risk assessment and an appropriate level of medical standard applied by the employer. At a minimum, they should be assessed to the commercial vehicle standard.

REPRODUCED WITH PERMISSION, AUSTROADS ASSESSING FITNESS TO DRIVE FOR COMMERCIAL AND PRIVATE VEHICLE DRIVERS 2016[2]

Cardiovascular disease

Cardiovascular disease (CVD) encompasses a wide and varied group of conditions affecting the heart and circulatory system. There are multiple cardiac conditions that can affect driving safety.[9]

The major concern is the risk of sudden incapacity or collapse, or other symptoms relevant to the ongoing control of a vehicle such as sudden onset pain, breathlessness and light-headedness (see figure 2).[9] A Finnish study showed that CVD was the leading medical condition (in 70% of "health-related conditions and observational failures/distraction") associated with "inhibiting the driving task" in relation to fatal motor vehicle accidents.[10]

It is beyond the scope of this article to address each type of CVD, but detailed information on a variety of conditions can be found in the AFTD standards.[2]

Assessment of an individual with cardiac disease addresses the nature of the condition, the risk of sudden incapacity, the type, frequency and severity of symptoms, and the type of surgical, physical or technological treatment. Physical examination considers signs of cardiac failure, arrhythmia and hypertension.

According to the AFTD guidelines, having an implantable cardioverter defibrillator or a ventricular assist device precludes the individual from holding a commercial driving licence. These devices are an absolute contraindication to holding a commercial licence, but a private licence may be issued with specialist input, depending on the reason for the device and the symptoms that the individual experiences.

Other conditions may have a recommended minimum non-driving period (for example, two weeks [private] and four weeks [commercial] after the insertion of a pacemaker), after which an assessment regarding fitness for driving can be performed.

Most conditions require an assessment of the condition, its causes,

Figure 2. The major concern in cardiac disease is the risk of sudden incapacity or collapse.

symptoms, treatment and the likelihood of it causing incapacity. Typically, information regarding the condition is required from the treating doctor (who may also be the assessing doctor) for private licence assessments and from a treating specialist for commercial licences.

Fits, faints, blackouts and seizures

Fits, faints, blackouts and seizures are a collection of terms describing sudden loss of consciousness, which may be transient or prolonged. Sudden loss of consciousness carries a significant risk of crash if it occurs in a driver. Causes include vasovagal syncope, hypoglycaemia, epilepsy and cardiac disease.

A thorough assessment of affected individuals is required to determine the specific cause of the event. If the cause is thought to be vasovagal syncope and has a specific trigger that is unlikely to occur while driving (such as venepuncture), then driving can continue as normal.

However, if there is a possible risk of recurrence or the cause is unknown, further information, testing and specialist referral may be indicated.

The risk of recurrence of an unprovoked first seizure when untreated has been estimated at 40-50% in the first two years, and this risk may reduce by half with treatment.[11] A significant risk of further seizure is considered unacceptable in a driver, as it is not possible to control a vehicle while having a seizure. There are several situations in which the risk is reduced, including seizures that only occur during sleep, those with prolonged auras, treatment, and increased time since the last seizure. As a result, there are various options to consider when reviewing a driver with a history of seizures.[12,13]

However, the default position is that a driver is not eligible for an unconditional licence if they have experienced a seizure. The length of time for which they need to stop driving and the requirements for review depend on the specific circumstances, the treatment and the driving tasks (see box 2).

Blackouts or collapse caused by diabetes or cardiac disease are assessed by reviewing the relevant condition and considering the driving task, diagnosis, treatment and symptoms. If, after extensive testing, a driver has been diagnosed with a loss of consciousness without a specific cause, then the assessment can be completed using the information on 'Blackouts of Uncertain Nature' from the AFTD. The default standard is that neither private drivers nor commercial drivers who have experienced such a blackout are fit to hold an unconditional licence. There is a requirement for a blackout-free period of six months in a private driver and five years in a commercial driver before they may be considered for a conditional licence.

These long non-driving periods and the limited reasons for exceptions from the default standard, particularly in commercial drivers, highlight the importance of early and correct diagnosis and counselling of individuals with blackouts or a diagnosis of a seizure disorder on the potential social and occupational impacts.

Table 2. Definitions

Term	Detail
Private licence standards[2]	These apply to drivers applying for or holding a licence class C (car), R (motorcycle) or LR (light rigid) unless the driver is also applying for an authority to or is already authorised to use the vehicle for carrying public passengers for hire or reward or for carrying dangerous goods, or, in some jurisdictions, for a driving instructor.
Commercial licence standards[2]	These apply to: • Drivers of 'heavy vehicles' – those holding or applying for a licence of class MR (medium rigid), HR (heavy rigid), HC (heavy combination) or MC (multiple combination) • Drivers carrying public passengers for hire or reward (bus drivers, taxi drivers, chauffeurs, drivers of hire cars and small buses) • Drivers carrying dangerous goods • Drivers subject to requirements for Basic or Advanced Fatigue Management under the National Heavy Vehicle Accreditation Scheme • Other driver categories who may also be subject to the commercial vehicle standards as a result of certification requirements of the authorising body or as required by specific industry standards; for example, driving instructors and members of TruckSafe
Unconditional licence	An unconditional licence is any licence authorised by the relevant driving licence authority that is not subject to any conditions.
Conditional licence[2]	A conditional licence identifies the need for medical treatments, vehicle modifications and/or driving restrictions that would enable the person to drive safely. It may also specify a review period, after which the person is required to submit for medical review to establish the status of their condition and their continued fitness to drive.

Box 2. Seizures and driving

- **A commercial driver who has had a seizure:**
  - The driver is not fit to hold an unconditional licence but may be eligible for a conditional licence after a prolonged seizure-free period.
  - The driver must have a 10-year seizure-free period, normal EEG and maintain adherence to appropriate medical advice and treatment.
  - All information must be provided by a specialist in epilepsy.
  - The seizure-free period may be reduced in certain situations, including a first seizure or seizure with a known specific trigger without epilepsy (such as a head injury or withdrawal from drugs [prescribed or illicit] or alcohol).
- **A private driver who has had a seizure:**
  - The driver is not fit to hold an unconditional licence but may be eligible for a conditional licence after a seizure-free period.
  - The seizure-free period is required to be at least 12 months, although this may be reduced in certain situations, including a first seizure or seizure with a known specific trigger without epilepsy (such as a head injury or withdrawal from drugs [prescribed or illicit] or alcohol).

Reproduced with permission, Austroads Assessing Fitness to Drive for Commercial and Private Vehicle Drivers 2016[2]

Other neurological conditions

Seizure is not the only neurological condition that may have an impact on a driver, with other conditions affecting aspects of function that impair the ability to drive safely. These include sensation (particularly in the hands and feet), higher cognitive functioning, attention, the visual system, co-ordination and motor control.

Assessment of neurological disorders with fixed deficits may be easier because of obvious physical limitations relevant to driving; however, there is considerable complexity when assessing cognitive impairment and dementia. There is no one-size-fits-all approach, and the assessing doctor must consider the severity of the condition, the frequency of relevant functional impairment (fixed, deteriorating, paroxysmal) and the relevance to the driving task. Seeking a specialist opinion is recommended, particularly for commercial drivers. A practical driving test may be considered in certain cases. The standards mandate a practical driving test for any commercial driver with a diagnosis of dementia who wishes to be considered for a conditional licence.

The standards provide a useful checklist for the assessing doctor when evaluating a patient with a neurological disorder (see box 3).[2]

Each person must be assessed individually, and there are no blanket exclusions from driving for neurological conditions.[14] The assessing doctor will consider the impairments, their frequency and severity and the likelihood of deterioration.

To provide a recommendation for a conditional licence, the doctor needs to be reassured that the likelihood of the condition impacting on driving safety is minimised, and that the review period is appropriate.

Annual review is required on most conditional licences for medical reasons, but shorter review periods may be appropriate for individuals with progressive conditions.

Sleep disorders

A variety of sleep disorders, including obstructive sleep apnoea (OSA), may manifest as excessive daytime sleepiness (see figure 3). This may result in an individual dozing or sleeping at ▸

Figure 3. A variety of sleep disorders, including obstructive sleep apnoea (OSA), may manifest as excessive daytime sleepiness.

◂ times when they mean to be awake, with serious implications for individuals in control of a motor vehicle. It has been estimated that the mean crash-rate ratio associated with OSA is between 1.21 and 4.89.[15] The mean crash-rate ratio is similar to an odds ratio, whereby a driver with OSA is between 1.21 and 4.89 times more likely to be involved in a crash than a driver without the condition.

While this discussion focuses on sleep apnoea, it is important to note that there are many medical, psychological and social factors that can contribute to fatigue and increased daytime sleepiness. Employment-related factors, such as fatigue from sleep deprivation in commercial vehicle drivers because of shift work, can also contribute to fatigue and crash risk.

Sleep apnoea is a common condition, with a prevalence in adults estimated at 9-38%.[16] OSA (due to intermittent repetitive obstruction of the upper airway while sleeping) is the most common type of sleep apnoea, but there is also a central variant related to neural rather than airway factors.[17, 18] Sleep apnoea may worsen or be associated with other conditions relevant to driving, such as type 2 diabetes, hypertension and depression.

Not all individuals with evidence of sleep apnoea on a sleep study report excessive daytime sleepiness. Sleep apnoea syndrome is defined as the presence of excessive daytime sleepiness in combination with characteristic findings on a sleep study. Sleep apnoea syndrome is estimated to affect 2% of women and 4% of men. Some studies suggest a higher prevalence in transport drivers.[19]

The Epworth Sleepiness Scale (ESS) may be used to screen for the presence of excessive daytime sleepiness. This is a validated tool but relies on the patient answering honestly. This cannot always be assumed in a setting where the patient/driver is aware of the potential implications for their driver's licence. The ESS website recommends that the scale "should not be used in isolation in circumstances where the scores could determine outcomes with potential legal implications, such as granting or withholding a driver's licence".[20] Do not rely solely on the ESS results, and in complex cases or if there are more concerns, discuss further objective testing (such as a maintenance of wakefulness test) with a respiratory physician.

Box 4 lists the licence considerations for those with sleep apnoea syndrome.

Box 3. Checklist for neurological disorder

If the answer is YES to any of the following questions, the person may be unfit to drive and warrants further assessment.

Are there significant impairments of any of the following?

- — Visuospatial perception.
- — Insight.
- — Judgement.
- — Attention and concentration.
- — Comprehension.
- — Reaction time.
- — Memory.
- — Sensation.
- — Muscle power.
- — Coordination.

Are the visual fields abnormal?

Have there been one or more seizures?

Some neurological conditions are progressive, while others are static. In the case of static conditions in those who are fit to drive, the requirement for periodic review may be waived.

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Box 4. Licence considerations for those with sleep apnoea syndrome

- Private and commercial vehicle drivers should not be considered fit to hold an unconditional licence if any of the following are present:
  - — If an individual has sleep apnoea syndrome diagnosed with appropriate findings on a sleep study and self-reported excessive sleepiness.
  - — Frequent self-reported drowsiness while driving.
  - — Motor vehicle accidents from inattention or sleepiness.
  - — If the doctor is of the opinion that there is a significant driving risk because of a sleep disorder.
- A conditional licence may be considered, subject to periodic review by a treating doctor:
  - — In the case of commercial drivers, the periodic review must be with a specialist in sleep disorders.
  - — The treating doctor must consider whether the condition is appropriately treated (with a satisfactory response to treatment) and whether there is appropriate compliance with treatment.
  - — It has been shown that adequate treatment with CPAP reduces the crash-risk in drivers with moderate to severe OSA.[19]

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Vision problems

Visual impairment needs to be assessed for driving safety and licensing as there is an increased risk of crashing with minimal visual acuity, and with limitations to visual fields.[21]

Drivers require assessment of their visual acuity and whether it may be corrected by glasses or contact lenses, and of their visual fields. In most people, a confrontation assessment of visual fields is adequate; however, if there are any concerns, then formal perimetry is needed. Patients are assessed for vision loss, monocular vision and diplopia.

If a patient has a vision impairment, or inadequate correction prevents them from meeting the standards to hold a licence, formal testing with an optometrist is recommended before a decision is made.

The vision requirements for commercial drivers are more stringent; it is recommended that these drivers undergo assessment by a specialist (optometrist or ophthalmologist depending on the condition) if there are any concerns regarding their ability to meet the required standards because of the occupational implications of the recommendation.

There is no robust evidence of an increased crash risk with colour blindness because affected drivers compensate for this.[2] Colour vision testing is therefore not required.

Substance use

It is illegal to use certain substances, including alcohol, when driving a car in Australia. Initial driver testing for alcohol testing is a breath test, with a blood alcohol concentration (BAC) test performed if the breath test is positive. Elevated BAC is associated with impairment and crash risk.[22, 23]

The laws on driving with drugs in the system in Australia are twofold. An individual may be tested at the roadside (random testing) and the presence of a banned substance or its metabolite in saliva (for a roadside test) is sufficient to render a positive test and a 'presence offence', regardless of the timing of use or the current impairment of the driver.[24, 25] This is important in the management of patients who are known to use illicit substances and for those where THC-containing medications are prescribed under evolving laws. It is important for doctors to be aware of the range of substances for which drivers may be tested (THC, methylamphetamines and MDMA in all states and territories and also cocaine in NSW) and to counsel their patients on the implications of their drug use, whether prescribed or illicit.[25, 26]

Individuals may also be charged by police with offences related to being affected by or under the influence of a drug while driving.[25]

Legality aside, there is considerable complexity in managing the assessment of a driver with substance abuse issues.

The standards state: "A person is not fit to hold an unconditional licence ... if there is an alcohol or other substance use disorder, such as substance dependence or heavy frequent alcohol or other substance use that is likely to impair safe driving".[2]

The assessor needs to consider whether a driver fits into that category. If the substance abuse is current, then it is inappropriate to recommend that the driver is fit for a licence.

However, if the individual is undergoing treatment, then it may be appropriate to recommend a conditional licence. This would depend on the type of substance, the length of time in remission, the adherence to treatment and the driving task. Input and a recommendation from an addiction medicine specialist may be appropriate.

In drivers without a known history of substance abuse, but where the assessing doctor has cause for concern, questionnaires such as the AUDIT questionnaire may be useful.[27] However, it is again important to acknowledge the limitations of such tools when the person perceives a threat (in this case to their driving licence and/or employment) if answering honestly.

Figure 4. Visual impairment needs to be assessed for driving safety and licensing.

Psychiatric conditions

A wide range of psychiatric conditions, medication side effects and concomitant substance use/abuse may impact on driving.

Psychiatric conditions may affect a wide range of functions relevant to driving, including attention, visual spatial functioning, impulse control, judgement, information processing ability and psychomotor reaction times.[28]

On assessment, consider the driving task as well as the specific condition, its symptoms, treatment and functional impact.

The literature on the effects of psychiatric conditions on driving safety is limited, and therefore an individualised assessment and the assessor's expert opinion, including specialist opinion where appropriate, is needed.[28]

Driving provides social freedom, something that may be crucial for someone with a psychiatric condition. Any recommendation that someone is unfit to drive due to a psychiatric condition should be made with as much information as possible.[28]

Figure 5. Holistically assess the interactions between multiple medical conditions, their treatment and ageing.

TEMPORARY MEDICAL CONDITIONS

TEMPORARY medical conditions are not managed by the licensing authority and do not need to be declared on licensing documentation.

These are managed by the treating doctor, who will advise regarding the safety of an individual to drive with a temporary condition (such as after trauma or surgery). The doctor should carefully document the advice and ensure that the driver understands the limitations and intends to follow the advice.

MULTIPLE AND COMPLEX CONDITIONS AND AGEING

USING the standards for a single medical condition is usually straightforward, as is assessing an individual for a discrete medical condition.

However, it is essential that the person is holistically assessed to include the interactions between multiple medical conditions, their treatment and ageing (see figure 5).

The effects of multiple conditions may be cumulative and affect the person's driving ability more than each condition would in isolation. Multi-system disease, progressive disease and combined physical and psychological conditions may have significant effects on driving safety.

Adopt an individualised approach; consider the driving task and the effect of all relevant conditions on the functions required to drive safely.

Request a practical driving test where there is uncertainty. Conditional licences with a specified review period may be appropriate, particularly for progressive conditions.

Assessment of older drivers can be a cause of stress for doctors, with some reporting losing sleep over decisions they have made.[21] A recent Australian article suggests that the development of a specific toolkit, assessing across all three functional domains (sensory, cognitive and motor function) would be of great assistance to GPs. The authors suggest something akin to the current Belgian toolkit that includes visual acuity using the Snellen chart, the Functional Reach Test, and a road signs recognition test (a component of the Stroke Drivers Screening Assessment), as an adjuvant to the occupational therapist on-road assessment.[29,30]

CASE STUDIES

Case study one

BOB, 52, drives a multi-combination truck long distances for work. He presents to his GP asking whether he can go back to work the following week, as he should be heading from Brisbane to Perth.

He was admitted to hospital the week before, after an episode of chest pain that occurred while he was walking up some stairs. Bob was diagnosed with angina and given glyceryl trinitrate (GTN) spray to use at home. He is due to see the cardiologist in four weeks' time and was told on discharge that he did not need any intervention at this stage. He denies any symptoms other than the episode of chest pain last week.

Bob's examination is normal, and the ECG provided by the hospital is normal with no arrhythmias or ST elevation.

Based on his diagnosis of angina, Bob is currently unfit to hold an unconditional commercial driving licence.

He may be fit for a conditional licence if he meets the following criteria.

- Either or both:
  - There is an exercise tolerance equal to or greater than 90% of the age/sex predicted exercise capacity according to the Bruce ▸

- protocol or equivalent functional exercise test protocol;
  - A resting or stress echocardiogram or a myocardial perfusion study, or both, show no evidence of ischaemia;
- And:
  - There are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness)."[2]

Bob is not currently fit to hold a commercial licence and should be advised against making a long solo trip after the recent event.

The GP advises Bob that he will liaise with the cardiologist and ensure that all criteria are met and there are no concerns on further testing. Bob may be deemed fit for a conditional licence once testing and recovery are complete.

Bob will require an annual review by the cardiologist, re-assessment against the recommended criteria, and the opportunity to raise any concerns.

Case study two

Jessica, 22, is a student paramedic. She had a seizure while on holiday with her parents overseas six months ago and had two further seizures shortly after her return to Australia. Her international medical records are unavailable. She is seeing a neurologist who has confirmed a diagnosis of epilepsy and started medication. Jessica has not had any further seizures since she started the medication three months ago. She is otherwise well.

Jessica is not currently fit to hold a driving licence. She may be fit for a conditional private licence after a six-month seizure-free period on medication under the 'Epilepsy treated for the first time' category (see table 3).

Given her chosen field of study, Jessica requires counselling regarding the potential impact on her career. Driving an ambulance is considered commercial driving, and most paramedics are required to be able to drive the ambulance, regardless of whether they are always the driver. Jessica's epilepsy means that she is unfit to hold a commercial driving licence for at least 10 years after her last seizure.

It would be important for Jessica to discuss her options with her physician, her educators and the local ambulance service where she hopes to work. If she requires a commercial licence to complete her course, or work as a paramedic, then changing her course of study may be the most appropriate option.

Table 3. Epilepsy treated for the first time

Condition	Private standards	Commercial standards
This applies when anti-epileptic treatment has been started for the first time within the preceding 18 months.	A conditional licence may be considered by the driver licensing authority subject to at least annual review, taking into account information provided by the treating doctor as to whether the following criteria are met: • the person has been treated for at least six months; and • there have been no seizures in the preceding six months; and • if any seizures occurred after the start of treatment, they happened only in the first six months after starting treatment and not in the last six months; and • the person follows medical advice, including adherence to medication.	There is no reduction. The default standard applies.

Reproduced with permission, Austroads Assessing Fitness to Drive for Commercial and Private Vehicle Drivers 2016[2]

Case study three

Mario, 42, presents for commercial vehicle medical assessment. He holds an HC class licence and drives a semi-trailer on long-haul routes, performing deliveries for a supermarket distribution centre. On the medical questionnaire, he ticks the box indicating a history of high blood pressure.

Mario has been seen intermittently over the past few years for prescriptions for antihypertensives. The notes also record a high BMI (42.1kg/m^2), but no other specific documented medical history.

He tells you his partner reports that he snores. Mario has not had a sleep study or been diagnosed with sleep apnoea.

Given the context of obesity, snoring and hypertension, the GP administers the Epworth Sleepiness Scale, which returns a score of 16/24 (consistent with moderate to severe self-reported sleepiness). Mario denies feeling drowsy while driving and reports no history of motor vehicle accidents.

The GP feels there is a significant risk of sleep apnoea and refers Mario for a sleep study. This confirms moderate obstructive sleep apnoea with an AHI of 24/hour (none/minimal: AHI less than five per hour, mild: AHI more than five but less than 15 per hour, moderate: 15 or more per hour but less than 30 per hour, severe: AHI 30 or more per hour).

Based on this information, Mario does not meet the criteria for an unconditional commercial licence. To be considered for a conditional licence, he requires certification as fit for a licence from a sleep disorders physician. Mario will require periodic specialist review, a satisfactory response to treatment and appropriate treatment compliance.

CONCLUSION

TO ASSESS drivers for licensing requirements, a detailed understanding of the driving task, and the functional abilities required to carry out the task, is needed. The assessing doctor requires good, up-to-date information regarding the individual's medical conditions, or access to such information from the treating doctor or specialist.

Conduct the assessment using the AFTD standards, as these provide a consistent, evidence-based approach for the legal requirements of medical conditions for licensing in Australia. Any doctor providing this assessment must be familiar with the standards and their limitations and have a comprehensive approach to assessments in more complex cases.

The personal and occupational consequences of being unable to hold a licence can impact on a person, and therefore recommendations need to be based on strong evidence and using the standards. Specialist assessment and practical driver testing are tools that may provide more information in complex cases.

RESOURCES

- **Austroads Assessing Fitness to Drive**
  bit.ly/3ej1uDq
- **Paperwork for the completion of a medical assessment to provide information to the driving licensing authority:**
  - **Queensland**
    bit.ly/2MUzEBZ
  - **NSW**
    bit.ly/3t143OG
  - **ACT**
    bit.ly/329EDCU
  - **NT**
    bit.ly/3kSDtEg
  - **SA**
    bit.ly/3quyf2O
  - **WA**
    bit.ly/30IML2j
  - **Tasmania**
    bit.ly/3s3Kjtv
  - **Victoria**
    bit.ly/38jnuKw
- **Epworth Sleepiness Scale**
  bit.ly/3vbz583
- **AUDIT alcohol screening tool**
  bit.ly/38qOaZE
- **Functional Reach Test**
  bit.ly/3t8XXM8
- **Stroke Drivers Screening Assessment**
  bit.ly/3esyj0M

References on request from howtotreat@adg.com.au

How to Treat Quiz.

ASSESSING FITNESS TO DRIVE

GO ONLINE TO COMPLETE THE QUIZ **ausdoc.com.au/howtotreat**

1. **Which THREE statements regarding fitness to drive are correct?**
   - **a** Australia has two medical standards for assessing an individual's fitness to drive safely: the private and the commercial.
   - **b** Driving a car for work, or to get to and from work, makes someone a commercial driver.
   - **c** Driving is a complex task requiring the integration of sensory, motor and cognitive function.
   - **d** A higher standard of medical fitness is required for commercial driving.

2. **Which TWO statements regarding fitness to drive and diabetes are correct?**
   - **a** A person with diabetes who is treated with insulin may hold an unconditional licence if they have not had a hypoglycaemic episode in the previous year.
   - **b** Diabetic retinopathy and neuropathy can affect driving skills.
   - **c** Patients with diagnosed diabetes who are not currently on any medication require a conditional driving licence and annual medical review.
   - **d** Many people with diabetes can safely drive.

3. **Which ONE is the leading medical condition related to fatal motor vehicle accidents?**
   - **a** Respiratory.
   - **b** Neurological.
   - **c** Cardiovascular.
   - **d** Visual.

4. **Which THREE periods of restriction are correct in drivers with fits, faints, blackouts and seizures?**
   - **a** A prolonged seizure-free period in a commercial driver who has had a seizure.
   - **b** At least 12 months of being seizure-free in a private driver.
   - **c** Permanent restriction in anyone who has a seizure while driving.
   - **d** No restriction if the cause is thought to be vasovagal syncope with a trigger unlikely to occur while driving.

5. **Which TWO statements regarding fitness to drive and neurological conditions are correct?**
   - **a** There is considerable complexity when assessing cognitive impairment and dementia.
   - **b** The standards mandate a practical driving test for any driver with a diagnosis of dementia who wishes to be considered for a conditional licence.
   - **c** Annual review is required on most conditional licences, but shorter review periods may be appropriate for individuals with progressive conditions.
   - **d** The requirement for periodic review is never waived.

6. **Which THREE will render a patient with a sleep disorder unfit to hold a driver's licence?**
   - **a** Sleep apnoea syndrome diagnosed with appropriate findings on a sleep study and self-reported excessive sleepiness.
   - **b** A positive score, even if low, on the ESS.
   - **c** Frequent self-reported drowsiness while driving.
   - **d** Motor vehicle accidents from inattention or sleepiness.

7. **Which THREE visual aspects are assessed for fitness to drive?**
   - **a** Colour vision.
   - **b** Visual acuity.
   - **c** Visual fields.
   - **d** Diplopia.

8. **Which TWO statements regarding fitness to drive and substance use are correct?**
   - **a** Initial driver testing for alcohol testing is a breath test, with a blood alcohol concentration test performed if the breath test is positive.
   - **b** If the substance abuse is current, then it is inappropriate to recommend that the driver is fit for a licence.
   - **c** The laws on driving with drugs in the system are impairment-based.
   - **d** Drivers taking prescribed medication which may be subject to abuse are exempt from the standard relating to driving and substance abuse.

9. **Which THREE statements regarding fitness to drive and psychiatric conditions are correct?**
   - **a** Psychiatric conditions may affect visual spatial functioning, impulse control and psychomotor reaction times.
   - **b** Medication side effects may impact on driving.
   - **c** The inability to drive usually has little impact on someone with a psychiatric condition.
   - **d** Individualise the assessment and request specialist input if needed.

10. **Which TWO statements regarding temporary and chronic conditions and fitness to drive are correct?**
    - **a** Temporary medical conditions (lasting three months or less) must be declared on licensing documentation.
    - **b** Holistic assessment includes the interactions between multiple medical conditions, their treatment and ageing.
    - **c** GPs generally find the assessment of older drivers to be quick and easy.
    - **d** Multiple comorbid conditions may have significant effects on driving safety.

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- RACGP points are uploaded every six weeks and ACRRM points quarterly.