Austroads

NTC AUSTRALIA
National Transport Commission

Assessing Fitness to Drive

for commercial and private vehicle drivers

2016

Medical standards for licensing and clinical management guidelines

Assessing Fitness to Drive

for commercial and private vehicle drivers

Help for professionals

For guidance in assessing a patient's fitness to drive contact your State or Territory driver licensing authority (see Appendix 9 for details). Information is also available from the Austroads website: www.austroads.com.au

Assessing Fitness to Drive

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Medical standards for licensing and clinical management guidelines

a resource for health professionals in Australia

October 2016

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NTC AUSTRALIA

National Transport Commission

Austroads

Austroads is the peak organisation of Australasian road transport and traffic agencies.

Austroads' purpose is to support our member organisations to deliver an improved Australasian road transport network. To succeed in this task, we undertake leading-edge road and transport research which underpins our input to policy development and published guidance on the design, construction and management of the road network and its associated infrastructure.

Austroads provides a collective approach that delivers value for money, encourages shared knowledge and drives consistency for road users.

Austroads is governed by a Board consisting of senior executive representatives from each of its eleven member organisations:

- Roads and Maritime Services New South Wales
- Roads Corporation Victoria
- Department of Transport and Main Roads Queensland
- Main Roads Western Australia
- Department of Planning, Transport and Infrastructure South Australia
- Department of State Growth Tasmania
- Department of Transport Northern Territory
- Territory and Municipal Services Directorate, Australian Capital Territory
- Commonwealth Department of Infrastructure and Regional Development
- Australian Local Government Association
- New Zealand Transport Agency.

National Transport Commission

The National Transport Commission is an inter-governmental agency charged with improving the productivity, safety and environmental performance of Australia's road, rail and intermodal transport system.

As an independent statutory body, the NTC develops and submits reform recommendations for approval to the Transport and Infrastructure Council, which comprises federal, state and territory transport, infrastructure and planning ministers.

The NTC also plays an important role in implementation planning to ensure reform outcomes are realised on the ground, as well as coordinating, monitoring, evaluating and maintaining the implementation of approved reforms.

NTC's vision

Australia's prosperity and community liveability is enhanced by the movement of people and goods.

NTC's mission

To champion and facilitate changes that improve productivity, safety and environmental outcomes.

NTC's role

By developing national regulatory and operational reform and implementation strategies for road, rail and intermodal transport.

Endorsements

These standards are endorsed by:

Australasian Chapter of Addiction Medicine
Australian Diabetes Society
Australasian Faculty of Occupational and Environmental Medicine
Australian and New Zealand Association of Neurologists
Australasian Sleep Association
Epilepsy Society of Australia
Occupational Therapy Australia
Optometry Australia
Royal Australian and New Zealand College of Ophthalmologists
Australian College of Rural and Remote Medicine
Royal Australian College of Physicians
Australasian Faculty of Rehabilitation Medicine

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The following organisations contributed substantially to the review process:

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Australian Diabetes Educators Association
Australian Diabetes Society
Australasian Sleep Association
Cardiac Society of Australia and New Zealand
Epilepsy Society of Australia
Occupational Therapy Australia
Optometry Australia
Royal Australian and New Zealand College of Ophthalmologists
Royal Australasian College of Physicians – Chapter of Addiction Medicine
Royal Australasian College of Physicians – Australasian Faculty of Occupational and Environmental Medicine

Contributing consumer health organisations

Alzheimer's Australia
Deaf Australia
Deaf Victoria
Diabetes Australia

Legal disclaimer

These licensing standards and management guidelines have been compiled using all reasonable care, based on expert medical opinion and relevant literature, and Austroads believes them to be correct at the time of printing. However, neither Austroads nor the authors accept responsibility for any consequences arising from their application.

Health professionals should maintain an awareness of any changes in healthcare and health technology that may affect their assessment of drivers. Health professionals should also maintain an awareness of changes in the law that may affect their legal responsibilities.

Where there are concerns about a particular set of circumstances relating to ethical or legal issues, advice may be sought from the health professional's medical defence organisation or legal advisor.

Other queries about the standards should be directed to the relevant driver licensing authority.

Foreword

In 2015, 1209[1] people were killed on Australian roads, and many tens of thousands hospitalised with serious injuries. The annual economic cost of road crashes in Australia is estimated to be $27 billion, which is accompanied by devastating social impacts.

While many factors contribute to safety on the road, driver health and fitness to drive is an important consideration. Drivers must meet certain medical standards to ensure their health status does not unduly increase their crash risk.

Assessing Fitness to Drive is a joint publication of Austroads and the National Transport Commission (NTC) and details medical standards for driver licensing purposes for use by health professionals and driver licensing authorities. The standards are approved by Commonwealth, state and territory transport ministers, and were first published in their current form in 2003. The last edition was published in 2012.

Since the last publication medical, legal and social developments have required that the medical criteria within the guidelines are updated to ensure they are accurate and reflect current practices. To this end, the NTC reviewed the guidelines, taking into account feedback from stakeholders, including medical professionals and expert consultants.

This review produced revised guidelines in draft form, for public consultation in October 2015. Doctors, other health professionals, members of the public, consumer groups, commercial operators and drivers, transport peak bodies, transport unions and governments submitted comments to the draft guidelines.

This edition of *Assessing Fitness to Drive* is the result of this extensive consultation process.

The Transport and Infrastructure Council approved this edition of the guidelines in June 2016. Medical organisations listed on page v have also endorsed these guidelines.

Austroads and the NTC acknowledge the significant contribution of health professionals to road safety. Health professionals in partnership with drivers, the road transport industry and governments play an essential role in keeping all road users safe. Together we are working towards further reducing, and eventually eliminating, deaths and injuries from vehicle crashes on Australian roads.

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1. Bureau of Infrastructure, Transport and Regional Economics. 2015. *Road deaths Australia*. Commonwealth of Australia. https://bitre.gov.au/publications/ongoing/rda/files/RDA_Dec_2015.pdf (accessed 28 Jan 2016)

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Help for professionals

For guidance regarding fitness to drive contact your state or territory driver licensing authority (refer to Appendix 9 for details). Information is also available from the Austroads website at <www.austroads.com.au>.

Part A: General information

1. About this publication

1.1 Purpose

Driving a motor vehicle is a complex task involving perception, appropriate judgement, adequate response time and appropriate physical capability. A range of medical conditions, disabilities and treatments may influence these driving prerequisites. Such impairment may adversely affect driving ability, possibly resulting in a crash causing death or injury.

The primary purpose of this publication is to increase road safety in Australia by assisting health professionals to:

- assess the fitness to drive of their patients in a consistent and appropriate manner based on current medical evidence
- promote the responsible behaviour of their patients, having regard to their medical fitness
- conduct medical examinations for the licensing of drivers as required by state and territory driver licensing authorities
- provide information to inform decisions on conditional licences, and
- recognise the extent and limits of their professional and legal obligations with respect to reporting fitness to drive.

The publication also aims to provide guidance to driver licensing authorities in making licensing decisions. With these aims in mind the publication:

- outlines clear medical requirements for driver capability based on available evidence and expert medical opinion
- clearly differentiates between national minimum standards (approved by the Transport and Infrastructure Council) for drivers of commercial and private vehicles
- provides general guidelines for managing patients with respect to their fitness to drive
- outlines the legal obligations for health professionals, driver licensing authorities and drivers
- provides a reporting template to guide reporting to the driver licensing authority if required, and
- provides links to supporting and substantiating information.

Routine use of these standards will ensure that the fitness to drive of each patient is assessed in a consistent manner. In doing so, the health professional will not only be contributing to road safety but may minimise medico-legal exposure in the event that a patient is involved in a crash or disputes a licensing decision.

The publication replaces all previous publications containing medical standards for private and commercial vehicle drivers including *Assessing Fitness to Drive 2001, 2003, 2012* and *Medical Examinations for Commercial Vehicle Drivers 1997*.

1.2 Target audience

This publication is intended for use by any health professional who is involved in assessing a person's fitness to drive or providing information to support fitness to drive decisions including:

- medical practitioners (general practitioners and specialists)
- optometrists
- occupational therapists
- psychologists
- physiotherapists
- diabetes educators
- nurse practitioners and primary health care nurses, and
- case workers.

The publication is also a primary source of requirements for driver licensing authorities in making determinations about fitness to hold a driver licence.

1.3 Scope

1.3.1 Medical fitness for driver licensing

This publication is designed principally to guide and support assessments made by health professionals regarding fitness to drive for licensing purposes. It should be used by health professionals when:

- **Treating any patient who holds a driver licence whose condition may impact on their ability to drive safely.** The majority of adults drive, thus a health professional should routinely consider the impact of a patient's condition on their ability to drive safely. Awareness of a patient's occupation or other driving requirements is also helpful.
- **Undertaking an examination at the request of a driver licensing authority or industry accreditation body.** Health professionals may be requested to undertake a medical examination of a driver for a number of reasons. This may be:
  - for initial licensing of some vehicle classes (e.g. multiple combination heavy vehicles)
  - as a requirement for a conditional licence
  - for assessing a person whose driving the driver licensing authority believes may be unsafe (i.e. for cause examinations)
  - for licence renewal of an older driver (in certain states and territories)
  - for licensing or accreditation of certain commercial vehicle drivers (e.g. public passenger vehicle drivers)
  - as a requirement for Basic or Advanced Fatigue Management under the National Heavy Vehicle Accreditation Scheme (refer to <www.nhvr.gov.au>).

This publication focuses on long-term health and disability-related conditions and their associated functional effects that may impact on driving. It sets out clear minimum medical requirements for unconditional and conditional licences that form the medical basis of decisions made by the driver licensing authority. This publication also provides general guidance with respect to patient management for fitness to drive. It does not address general management of clinical conditions unless it relates to driving.

This publication outlines two sets of medical standards for driver licensing or authorisation: private vehicle driver standards and commercial vehicle driver standards.

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.

1.3.2 Short-term fitness to drive

This publication does not attempt to address the full range of health conditions that might impact on a person's fitness to drive in the short term. Some guidance in this regard is included in section 2.2.3 Temporary conditions. In most instances, the non-driving period for short-term conditions will depend on individual circumstances and should be determined by the treating health professional based on an assessment of the condition and the potential risks.

1.3.3 Fitness for duty

The medical standards contained in this publication relate only to driving. They cannot be assumed to be applicable to fitness-for-duty assessments (including fitness for tasks such as checking loads, conversing with passengers and undertaking emergency procedures) without first undertaking a task risk assessment that identifies the range of other requirements for a particular job.

1.4 Content

This publication is presented in three parts.

Part A comprises general information including:

- the principles of assessing fitness to drive
- specific considerations including
  - the assessment of people with multiple medical conditions or age-related change
  - the management of temporary conditions, progressive disorders and undifferentiated illness
  - the effects of prescription and over-the-counter drugs
  - the role of practical driver assessments and driver rehabilitation
- the roles and responsibilities of drivers, licensing authorities and health professionals
- what standards to apply (private or commercial) for particular driver classes
- the application of conditional licences, and
- the steps involved in assessing fitness to drive.

Part B comprises a series of chapters relating to relevant medical systems/diseases. The medical requirements for unconditional and conditional licences are summarised in a tabulated to differentiate between the requirements for private and commercial vehicle drivers. Additional information, including the rationale for the standards, as well as a general assessment and management considerations, is provided in the supporting text of each chapter.

Part C comprises further supporting information including:

- regulatory requirements for driver assessment in each jurisdiction
- guidance on forms for the examination process and reporting to the driver licensing authority
- legislation relating to driver and health professional reporting of medical conditions
- legislation relating to blood alcohol, seatbelt use, helmet use and alcohol interlocks, and
- contacts for services relating to disabled parking and transport, occupational therapist assessments and driver licensing authorities.

1.5 Development and evidence base

A key input in terms of evidence for the licensing criteria remains the Monash University Accident Research Centre (MUARC) report *Influence of chronic illness on crash involvement of motor vehicle drivers, 2nd edition*.[1] This is an update of the original 2004 report and provides a comprehensive review of published studies involving domestic drivers in Western countries between May 2003 and June 2009. It investigates the influence of chronic illness and impairments on driving performance and crash involvement, including condition prevalence, evidence of crash involvement and other measures of driver risk.

In compiling this report, MUARC sought the best available evidence but acknowledges the quality of evidence is variable. In interpreting the research, there is therefore a need to consider a number of sources of potential bias including:

- There is a 'healthy driver' effect whereby drivers with a medical condition may recognise that they are not able to fully control a car and may either cease driving or restrict their driving. Their opportunity to be in a crash is therefore reduced, and this contributes to a lower crash risk than may otherwise be expected.
- The definition and incidence of crashes when driving often depends on self-reporting, which may lead to over- or under-reporting in some studies.
- The 'exposure metric' (i.e. kilometres travelled) is often not controlled for, yet is crucial for determining the risk of a crash.
- The definition of a 'medical condition' is by self-report in some studies and may not be accurate.
- Sample sizes may be small and not representative of the population of drivers.
- The control group may not be properly matched by age and sex.
- Comorbidities may not be adjusted for, for example, alcohol dependence.

The implications are that false-negative results may occur whereby the condition appears to have no effect or minimal effect on driving safety. The authors acknowledge that care should be taken in interpreting the literature and that professional opinion plus other relevant data should be taken into account in determining the risks posed by medical conditions.

While the current review has not involved a further systematic review of the literature, input has been secured for the current edition of Assessing Fitness to Drive through the involvement of several expert groups and through the review of coronial cases. Where recent evidence has become available to inform refinement of licensing criteria, this has been included in the revised chapters.

In addition to evidence regarding crash risk and the effects of medical conditions on driving, evidence has also been sought regarding best practice approaches to driver assessment and rehabilitation.

For the purposes of this publication the term 'crash' refers to a collision between two or more vehicles, or any other accident or incident involving a vehicle in which a person or animal is killed or injured, or property is damaged.

Health professionals should also keep themselves up to date with changes in medical knowledge and technology that may influence their assessment of drivers, and with legislation that may affect the duties of the health professional or the patient.

2. Principles of assessing fitness to drive

The aim of determining fitness to drive is to achieve a balance between minimising any driving-related road safety risks for the individual and the community posed by the driver's permanent or long-term injury or illness, and maintaining the driver's lifestyle and employment-related mobility independence.

The key question is: ***Is there a likelihood the person will be unable to control the vehicle and act or react appropriately to the driving environment in a safe, consistent and timely manner?***

The general principles should be considered in conjunction with the specific standards outlined in Part B of this publication. The key considerations are:

- the driving task
- the potential impact of medical conditions including the interaction of multiple medical conditions
- the driver's functional abilities in relation to driving including their capacity to compensate and the need for rehabilitation.

2.1 The driving task

Consideration of the requirements of the driving task is fundamental to assessing a person's medical fitness to drive.

Driving is a complex instrumental activity of daily living. It involves a complex and rapidly repeating cycle that requires a level of skill and the ability to interact with both the vehicle and the external environment at the same time (refer to Figure 1).

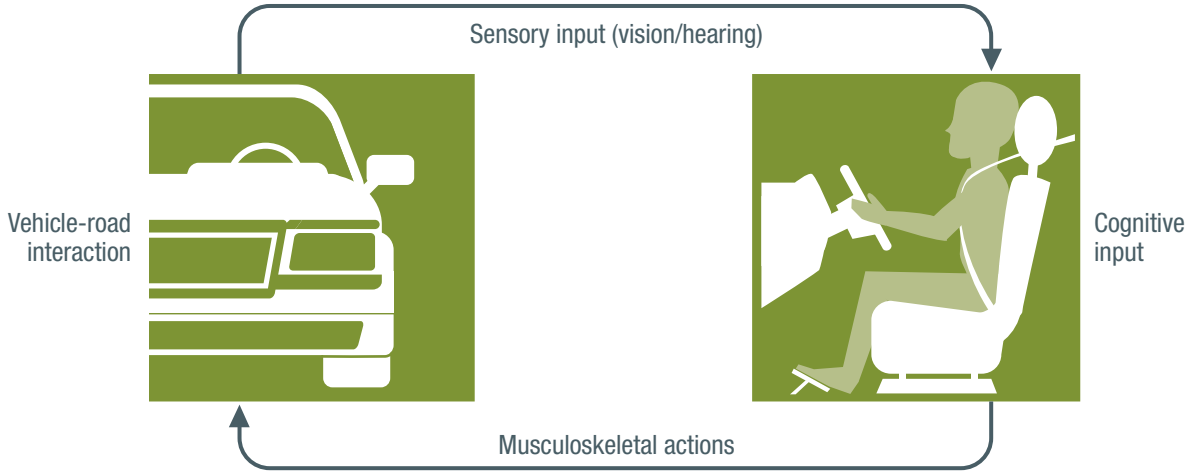
The demands of the driving task can vary considerably depending on a range of factors including those relating to the driver, the vehicle, the purpose of the driving task and the road environment (Box 1).

Information about the road environment is obtained via the visual and auditory senses. The information is operated on by many cognitive processes including short- and long-term memory and judgement, which leads to decisions being made about driving. Decisions are put into effect via the musculoskeletal system, which acts on the steering, gears and brakes to alter the vehicle in relation to the road. This repeating sequence depends on:

- Sensory input
  - vision
  - visuospatial perception
  - hearing
- Cognitive function
  - attention and concentration
  - comprehension
  - memory
  - insight
  - judgement
  - decision making
  - reaction time
  - sensation
- Motor function
  - muscle power
  - coordination.

Given these requirements, it follows that many body systems need to be functional in order to ensure safe and timely execution of the skills required for driving. The driver's sensory, motor and cognitive skills may require detailed assessment to determine the potential impact on driving.

Figure 1: The driving task



Box 1: Factors affecting driving

Driving tasks occur within a dynamic system influenced by complex driver, vehicle, task, organisational and external road environment factors including:

- the driver's experience, training and attitude
- the driver's physical, mental and emotional health, including fatigue and the effect of prescription and non-prescription drugs
- the road system, for example, signs, other road users, traffic characteristics and road layout
- legal requirements, for example, speed limits and blood alcohol concentration
- the natural environment, for example, night, extremes of weather and glare
- vehicle and equipment characteristics, for example, the type of vehicle, braking performance and maintenance
- personal requirements, trip purpose, destination, appointments and time pressures
- passengers and their potential to distract the driver.

For **commercial or heavy vehicle drivers** there are a range of additional factors including:

- business requirements, for example, rosters (shifts), driver training and contractual demands
- work-related multitasking, for example, interacting with in-vehicle technologies such as a GPS, job display screens or other communication systems
- legal requirements, for example, work diaries and licensing procedures
- vehicle issues including size, stability and load distribution
- passenger requirements/issues, for example, duty of care, communication requirements and potential for occupational violence
- risks associated with carriage of dangerous goods
- additional skills required to manage the vehicle, for example, turning and braking
- endurance/fatigue and vigilance demands associated with long periods spent on the road.

2.2 Medical conditions and driving

2.2.1 Conditions likely to affect driving

Given the many causal factors in motor vehicle crashes, the extent to which medical conditions contribute to vehicle crashes is difficult to assess.

There is, however, recognition of the potential for certain conditions to cause serious impairments. Examples of such conditions include:

- blackouts
- cardiovascular disease
- diabetes
- musculoskeletal conditions
- neurological conditions such as epilepsy, dementia and cognitive impairment due to other causes

- psychiatric conditions
- substance misuse/dependency
- sleep disorders
- vision problems.

These conditions may affect sensory, cognitive or motor function, or a combination of these.

Impairments associated with medical conditions may be persistent (e.g. visual impairment) or episodic (e.g. seizure). Drivers with persistent impairments can be assessed based on observations and measures of their functional capacity. Those with episodic impairment must be assessed based on a risk analysis that takes into account the probability and consequence of the episode.

Treatments for medical conditions (including drug treatments and others) can also affect driving ability through effects on cognition and reaction time (refer to section 2.2.8 Drugs and driving).

Drivers may present to treating health professionals with a range of conditions. Some may affect driving temporarily or may affect the patient's ability to drive at some time in the future; others might be complicated by the presence of multiple conditions. The content of this publication focuses on common conditions known to affect fitness to drive and in particular on determining the risk of a patient's involvement in a serious vehicle crash caused by loss of control of the vehicle.

2.2.2 Conditions not covered explicitly in this publication

This publication does not attempt to define all clinical situations that may influence safe driving ability.

It is accepted that other medical conditions or combinations of conditions may also be relevant and that it is not possible to define all clinical situations where an individual's overall function would compromise public safety. A degree of professional judgement is therefore required in assessing fitness to drive.

The examining health professional should follow general principles when assessing these patients including consideration of the driving task and the potential impact of the condition on requirements such as sensory, motor and cognitive skills. Episodic conditions need consideration regarding the likelihood of recurrence. A more stringent threshold should be applied to drivers of commercial vehicles than to private vehicle drivers. An appropriate period should be advised for review, dependent on the natural history of the condition (refer to section 2.2.7 Multiple conditions and age-related change).

2.2.3 Temporary conditions

This publication does not attempt to address every condition or situation that might temporarily affect safe driving ability.

There is a wide range of conditions that temporarily affect the ability to drive safely. These include conditions such as post major surgery, severe migraine or injuries to limbs. These conditions are self-limiting and hence do not impact on licence status; therefore, the licensing authority need not be informed. However, the treating health professional should provide suitable advice to such patients regarding driving safely, particularly for commercial vehicle drivers. Such advice should be based on consideration of the likely impact of the patient's condition and their specific circumstances on the driving task as well as their specific driving requirements. Table 1 provides guidance on some common conditions that may temporarily impact on driving ability.

2.2.4 Undifferentiated conditions

A patient may present with symptoms that could have implications for their licence status but the diagnosis is not clear. Investigation of the symptoms will mean there is a period of uncertainty before a definitive diagnosis is made and before the licensing requirements can be confidently applied.

Each situation will need to be assessed individually, with due consideration being given to the probability of a serious disease or long-term or permanent injury or illness that may affect driving, and to the circumstances in which driving is required. However, patients presenting with symptoms of a potentially serious nature, for example, chest pains, dizzy spells or blackouts or delusional states, should be advised not to drive until their condition can be adequately assessed. During this interim period, in the case of private vehicle drivers, no formal communication with the driver licensing authority is required. After a diagnosis is firmly established and the standards applied, normal notification procedures apply if needed. In the case of a commercial vehicle driver presenting with symptoms of a potentially serious nature, the driver should be advised to cease driving and to notify the driver licensing authority. The health professional should consider the impact on the driver's livelihood and investigate the condition as quickly as possible.

Table 1: Examples of management of temporary conditions

Condition and impact on driving	Management guidelines
Anaesthesia Physical and mental capacity may be impaired for some time post anaesthesia (including both general and local anaesthesia). The effects of general anaesthesia will depend on factors such as the duration of anaesthesia, the drugs administered and the surgery performed. The effect of local anaesthesia will depend on dosage and the region of administration. The use of analgesics and sedatives should also be considered.	In cases of recovery following surgery or procedures under general or local anaesthesia, it is the responsibility of the surgeon/dentist and anaesthetist to advise patients not to drive until physical and mental recovery is compatible with safe driving. • Following minor procedures under local anaesthesia without sedation (e.g. dental block), driving may be acceptable immediately after the procedure. • Following brief surgery or procedures with short-acting anaesthetic drugs, the patient may be fit to drive after a normal night's sleep. • After longer surgery or procedures requiring general anaesthesia, it may not be safe to drive for 24 hours or more.
Post surgery Surgery will impact on driving ability to varying degrees depending on the location, nature and extent of the procedure.	The non-driving period post-surgery should be determined by the treating health professionals based on a consideration of the requirements of the driving task and the impact of the surgery on the capacity to undertake these tasks, including responding to emergency situations. Practical driver assessment may be helpful in determining fitness to drive (refer to section 2.3.1 Practical driver assessment).
Pregnancy Under normal circumstances pregnancy should not be considered a barrier to driving. However, conditions that may be associated with some pregnancies should be considered when advising patients. These include: • fainting or light-headedness • hyperemesis gravidarum • hypertension of pregnancy • post caesarean section.	A caution regarding driving may be required depending on the severity of symptoms and the expected effects of medication. Seatbelts must be worn (refer to Appendix 7: Seatbelt use).
Temporary or short-term vision impairments A number of conditions and treatments may impair vision in the short term, for example, temporary patching of an eye, use of mydriatics or other drugs known to impair vision, or eye surgery. For long-term vision problems, refer to Part B section 10 Vision and eye disorders.	People whose vision is temporarily impaired by a short-term eye condition or an eye treatment should be advised not to drive for an appropriate period.
Deep vein thrombosis and pulmonary embolism While deep vein thrombosis may lead to an acute pulmonary embolus there is little evidence that such an event causes crashes. Therefore there is no licensing standard applied to either condition. Non-driving periods are advised. If long-term anticoagulation treatment is prescribed, the standard for anticoagulant therapy should be applied (refer to Part B section 2.2.8 Long-term anticoagulant therapy).	Private and commercial vehicle drivers should be advised not to drive for at least two weeks following a deep vein thrombosis and for six weeks following a pulmonary embolism.

2.2.5 Progressive conditions

Often diagnoses of progressive conditions are made well before there is a need to question whether the patient remains safe to drive (e.g. multiple sclerosis, early dementia). However, it is advantageous to raise issues relating to the likely effects of these disorders on personal independent mobility early in the management process.

In a mobile society people frequently make choices about employment, place of residence and recreational and social activities based on the assumption of continued access to a car. Changing jobs, home and social contacts takes a great deal of time and places substantial emotional demands on patients and their families.

It is therefore recommended that the patient be advised appropriately where a progressive condition is diagnosed that may result in future restrictions on driving. It is important to give the patient as much lead time as possible to make the lifestyle changes that may later be required. Assistance from an occupational therapist may be valuable in such instances (refer to Part B section 6.1 Dementia).

2.2.6 Congenital conditions

People with congenital or childhood conditions may have developed coping strategies that enable safe driving despite their impairment. They will require individual assessment by a specialist and may need tutoring prior to a practical assessment. While they may require a conditional licence to identify specific vehicle modifications, if the condition is static they may not require periodic reviews.

2.2.7 Multiple medical conditions and age-related change

Where a vehicle driver has multiple conditions or a condition that affects multiple body systems, there may be an additive or a compounding detrimental effect on driving abilities, for example, in:

- congenital disabilities such as cerebral palsy, spina bifida and various syndromes
- multiple trauma causing orthopaedic and neurological injuries as well as psychiatric sequelae
- multi-system diseases such as diabetes, connective tissue disease and HIV
- dual diagnoses involving psychiatric illness and drug or alcohol addiction
- ageing-related changes in motor, cognitive and sensory abilities together with degenerative disease.

Although these medical standards are designed principally around individual conditions, clinical judgement is needed to integrate and consider the effects on safe driving of any medical conditions and disabilities that a patient may present with. For example, glaucoma may cause a slight loss of peripheral vision. If combined with cervical spondylosis and low insight, there is likely to be a substantial reduction in the driver's visual fields and possibly their perceptual abilities, thus increasing the risks of missing important visual information when driving.

Advanced age, in itself, is not a barrier to driving, and functional ability rather than chronological age should be the criterion used in assessing the fitness to drive of older people. Age-related physical and mental changes vary greatly between individuals but will eventually affect the ability to drive safely. Professional judgement must determine what is acceptable decline (compensated by the patient's long experience and self-imposed limitations on when and where they drive) and what is irreversible, hazardous deterioration in driving-related skills that requires reporting to the licensing authority. This may require careful consideration and specialist referral. Note that some driver licensing authorities require medical examination or assessment of drivers beyond a specified age. These requirements vary between jurisdictions and may be viewed in Appendix 1: Regulatory requirements for driver testing.

As all possible combinations of disabilities are too numerous to detail here, the examining health professional should follow general principles when assessing these patients:

- **The driving task.** First, consider the ergonomics of the driving task as shown in Figure 1. How might the various impairments (sensory, cognitive and musculoskeletal), disabilities and general fitness levels impact on the functions required to complete driving-related tasks?
- **Clinical assessment.** The key considerations are:
  - sensory (in particular visual acuity and visual fields but also cutaneous, muscle and joint sensation)
  - motor function (including joint movements, strength and coordination)
  - cognition (including attention, concentration, presence of hallucinations and delusions, insight, judgement, memory, problem-solving skills, thought processing and visuospatial skills)
  - risk of sudden incapacity.

It may be necessary for the health professional to consider medical standards for each condition. However, it is insufficient simply to apply the medical standards contained in this publication for each condition separately, as a driver may have several minor impairments that alone may not affect driving but when taken together may make risks associated with driving unacceptable. It will therefore be necessary to integrate all clinical information, bearing in mind the additive or compounding effect of each condition on the overall capacity of the patient to control the vehicle, and to act and react in an appropriate and timely way to emergent traffic and road conditions.

- **General functional assessment.** Consider to what extent the person is currently able to function in regard to domestic or occupational requirements and what compensatory or coping strategies may have been developed. Information gained from relatives or carers is also likely to be important in this regard. Individuals may be likely to cope better with congenital or slow-onset conditions compared with traumatic or rapidly developing conditions. A referral for an assessment by a generalist occupational therapist may be appropriate. It should request an evaluation of overall functioning (personal, mobility, community and work activities) and general capacity for driving (this assessment may be available under the Medicare 'Care Plan' for people with multiple disabilities as well as for those turning 75 years).
- **Practical driver assessment.** A practical driver assessment may be required to assess the impact of injury, illness or the ageing process on driving skills including judgement, decision-making skills, observation and vehicle handling. The assessment may also be helpful in determining the need for vehicle modification to assist drivers with musculoskeletal and other disabilities (refer to section 2.3.1 Practical driver assessments). This is particularly relevant to those applying for, or seeking to maintain, a commercial vehicle licence. A referral to a Driver Assessor Occupational Therapist (DAOT) may be required for a comprehensive driving assessment and determination of suitability for vehicle modifications and/or driving rehabilitation/retraining (refer to Appendix 10: Specialist driver assessors).
- **Capacity to learn to drive.** Young people with multiple disabilities may seek the opportunity to gain a driver licence. In order to ensure they receive informed advice and reasonable opportunities for training, it is helpful if they are trained by a driving instructor with experience in the area of teaching drivers with disabilities. An initial assessment with an occupational therapist specialised in driver evaluation may help to identify the need for adaptive devices, vehicle modifications or special driving techniques.

In light of the information gathered from the above, the health professional may advise the patient regarding their fitness to drive and provide advice to the driver licensing authority. The key question is: *Is there a likelihood the person will be unable to control the vehicle and act or react appropriately to the driving environment in a safe, consistent and timely manner?* The threshold tolerance for multiple conditions is much less for commercial vehicle drivers where there is the potential for more time on the road and more severe consequences in the event of a crash.

Where one or more conditions is progressive, it may be important to reduce driving exposure and ensure ongoing monitoring of the patient (refer to section 2.2.5 Progressive conditions). Conditional licences that may limit the driver (e.g. no night driving) or place requirements on the vehicle (e.g. automatic transmission only) are an option in these circumstances (refer to section 4.4 Conditional licences). The requirement for periodic reviews can be included as recommendations on driver licences. This is also important for drivers with conditions likely to be associated with future reductions in insight and self-regulation. If lack of insight may become an issue in the future, it is important to advise the patient to report the condition(s) to the driver licensing authority. Where lack of insight already appears to impair self-assessment and judgement, public safety interests should prevail, and the health professional should report the matter directly to the driver licensing authority and, if appropriate, seek the support of the patient's family members.

For patient information and resources refer to section 2.3.4 Information and assistance for drivers.

2.2.8 Drugs and driving

Any drug that acts on the central nervous system has the potential to adversely affect driving skills. Central nervous system depressants, for example, may reduce vigilance, increase reaction times and impair decision making in a very similar manner to alcohol. In addition, drugs that affect behaviour may exaggerate adverse behavioural traits and introduce risk-taking behaviours.

Acute impairment due to alcohol or drugs (including illicit, prescription and over-the-counter drugs) is managed through specific road safety legislation that prohibits driving over a certain blood alcohol concentration (BAC) or when impaired by drugs (refer to Appendix 4: Drivers' legal BAC limits). This includes requirements for using alcohol interlocks for high-risk offenders, the application of which varies between jurisdictions (refer to Appendix 5: Alcohol interlock programs). This is a separate consideration to long-term medical fitness to drive and licensing, thus specific medical requirements are not provided in this publication. Dependency and substance misuse, including chronic misuse of prescription drugs, is a licensing issue and standards are outlined in Part B section 9 Substance misuse.

Where medication is relevant to the overall assessment of fitness to drive in the management of specific conditions, such as diabetes, epilepsy and psychiatric conditions, this is covered in the respective chapters. Prescribing doctors and dispensing pharmacists do, however, need to be mindful of the potential effects of all prescribed and over-the-counter medicines and to advise patients accordingly. General guidance is provided below.

General guidance for prescription drugs and driving

While many drugs have effects on the central nervous system, most, with the exception of benzodiazepines, tend not to pose a significantly increased crash risk when the drugs are used as prescribed and once the patient is stabilised on the treatment. This may also relate to drivers self-regulating their driving behaviour. When advising patients and considering their general fitness to drive, whether in the short or longer term, health professionals should consider the following:

- the balance between potential impairment due to the drug and the patient's improvement in health on safe driving ability
- the individual response of the patient – some individuals are more affected than others
- the type of licence held and the nature of the driving task (i.e. commercial vehicle driver assessments should be more stringent)
- the added risks of combining two or more drugs capable of causing impairment, including alcohol
- the added risks of sleep deprivation on fatigue while driving, which is particularly relevant to commercial vehicle drivers
- the potential impact of changing medications or changing dosage
- the cumulative effects of medications
- the presence of other medical conditions that may combine to adversely affect driving ability, and
- other factors that may exacerbate risks such as known history of alcohol or drug misuse.

The effects of specific drug classes[2,3] (refer also PART B section 9 Substance misuse)

- **Benzodiazepines.** Benzodiazepines are well known to increase the risk of a crash and are found in about 4 per cent of fatalities and 16 per cent of injured drivers taken to hospital. In many of these cases benzodiazepines were either abused or used in combination with other impairing substances. If a hypnotic is needed, a shorter acting drug is preferred. Tolerance to the sedative effects of the longer acting benzodiazepines used to treat anxiety gradually reduces their adverse impact on driving skills.
- **Antidepressants.** Although antidepressants are one of the more commonly detected drug groups in fatally injured drivers, this tends to reflect their wide use in the community. The ability to impair is greater with sedating tricyclic antidepressants, such as amitriptyline and dothiepin, than with the less sedating serotonin and mixed reuptake inhibitors such as fluoxetine and sertraline. However, antidepressants can reduce the psychomotor and cognitive impairment caused by depression and return mood towards normal. This can improve driving performance.
- **Antipsychotics.** This diverse class of drugs can improve performance if substantial psychotic-related cognitive deficits are present. However, most antipsychotics are sedating and have the potential to adversely affect driving skills through blocking central dopaminergic and other receptors. Older drugs such as chlorpromazine are very sedating due to their additional actions on the cholinergic and histamine receptors. Some newer drugs are also sedating, such as clozapine, olanzapine and quetiapine, while others such as aripiprazole, risperidone and ziprasidone are less sedating. Sedation may be a particular problem early in treatment and at higher doses.
- **Opioids.** There is little direct evidence that opioid analgesics (e.g. hydromorphone, morphine or oxycodone) have direct adverse effects on driving behaviour. Cognitive performance is reduced early in treatment, largely due to their sedative effects, but neuroadaptation is rapidly established. This means that 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. Driving at night may be a problem due to the persistent miotic effects of these drugs reducing peripheral vision.

2.3 Assessing and supporting functional driver capacity

2.3.1 Practical driver assessments

The impact of a medical condition or multiple conditions on driving is not always clear, thus a practical driver assessment may be useful. Such assessments are to be distinguished from the tests of competency to drive that are routinely conducted by driver licensing authorities for licensing purposes. These assessments are suitable only for persistent impairments.

When is a practical driver assessment indicated?

A practical driver assessment is designed to assess the impact of injury, illness or the ageing process on driving skills including judgement, decision-making skills, observation and vehicle handling. The assessment may also be helpful in determining the need for vehicle modification to assist drivers with musculoskeletal and other disabilities.

A health professional may request a practical driver assessment to provide information to supplement the clinical assessment in some borderline cases and to assist in making recommendations regarding a person's fitness to drive. However, practical assessments have limitations in that a patient's condition may fluctuate (good days and bad days) and it is not possible to create emergency situations on the road to assess quickness of response. Thus, practical assessments are intended to inform but not override the clinical opinion of the examining health professional. In addition, there are clinical situations that are clearly unsuitable for on-road assessments, such as significant visual impairment or significant cognitive impairment.

What types of assessments are available?

There are a wide range of practical assessments available, including off-road, on-road and driving simulator assessments, each with strengths and limitations. Assessments may be conducted by occupational therapists trained in driver assessment or by others approved by the particular driver licensing authority, such as training providers for commercial vehicle drivers. Processes for initiating and conducting driver assessments vary between the states and territories and the choice of assessment depends on resource availability, logistics, cost

and individual requirements. The assessments may be initiated by the examining health professional, other referrers (e.g. police, self, family) or by the driver licensing authority.

It is not the intent of this publication to specify the assessment to be used in a particular situation. Health professionals should contact the local driver licensing authority (Appendix 9: Driver licensing authority contacts) for details of options or refer to Appendix 10: Specialist driver assessors.

What does a practical assessment involve?

Depending on the individual situation, the assessment may involve evaluating:

- the need for specialised equipment or vehicle modifications
- the driver's ability to control the motor vehicle
- the driver's functional status including cognitive function, physical strength and skills, reaction time, insight level and ability to self-monitor their driving
- the driver's lifestyle and the nature, frequency and requirement for driving
- the driver's understanding and application of road laws.

Recommendations following assessment may relate to licence status, the need for vehicle modifications, rehabilitation or retraining (refer to section 2.3.2 Driver rehabilitation), licence conditions or restrictions (refer to section 4.4 Conditional licences) and reassessment.

More information about occupational therapy driver assessments can be found in the publication *Victorian Guidelines for Occupational Therapy* (OT) *Driver Assessors*, 2008.[4] Refer also Appendix 10: Specialist driver assessors.

2.3.2 Driver rehabilitation

A practical driver assessment may indicate a need for the person to participate in a rehabilitation or retraining program. A rehabilitation or retraining program will be developed based on the assessment results. It will be graded to increase the degree of difficulty or complexity in the task/environment and may include clinic-based activities, simulator or computer-based training, or on-road training with a driving instructor under the direction of an occupational therapist. It may also include training in the use of vehicle modifications or aids/adaptations as well as education to develop driver awareness and improve driving confidence. There is currently limited evidence to support the use of particular rehabilitation or retraining strategies.[6,7] Designed and tested driving simulation activities may offer controlled and repeatable driving conditions for rehabilitation that are not available or limited in on-road driving situations, allowing practice and skills related to the behavioural, cognitive and physical skills related to driving.[8]

On completion of the rehabilitation program, a reassessment of the patient's driving skills may be made and a report sent to the driver licensing authority.

2.3.3 Equal employment opportunity and discrimination

The purpose of the standards, particularly for commercial vehicle driving, is to protect public safety. They should not be used as a barrier to employment per se. The system of conditional licences aims to support employability without compromising road safety by providing for periodic medical review and driving conditions as appropriate.

Commonwealth and state or territory legislation exists to protect workers against unfair discrimination based on disability. If a patient suspects they are being unfairly discriminated against based on the disability outlined on their conditional licence, they may contact their union or the Human Rights and Equal Opportunity Commission or the relevant commission in their state or territory.

2.3.4 Information and assistance for drivers

Assessment by a health professional is one piece of information taken into account by the driver licensing authority in making a decision about the future licensing status of a patient. The driver licensing authority may cancel, refuse or suspend a driver licence or place conditions on a licence. Because most people consider a driver licence critical to continued independence, employment and recreation, the risk of it being withdrawn can evoke strong emotions and reactions. Patients may become upset, anxious, frustrated or angry; especially if their livelihood or lifestyle is threatened (refer to section 3.3.2 Patient–health professional relationship).

In cases where licensing decisions may impact on a patient's ability to earn a living, it is necessary that the health professional demonstrates some sensitivity in the interests of ongoing patient health. Timely provision of medical reports is important in this regard. Offering some direction in developing coping strategies may help alleviate some of the patient's concerns or fears. Where appropriate, the health professional should consider direct referral rather than simply providing sources for further information, for example:

- Vocational assessors will assess a person's ability to rehabilitate, retrain and reskill for another industry, or a new sector within the industry.
- There may be government-funded assistance programs to support work-based assessments and workplace modifications including vehicle modifications.

- Condition-specific support and advocacy agencies may also offer advice, support and services, for example, Diabetes Australia, Alzheimer's Australia, the MS Society and epilepsy organisations.

For older drivers, early advice will help them plan for the inevitable changes in their independence. There are also specific information resources available for drivers with dementia and their carers (refer to resources below).

Driver information resources

Alzheimer's Australia

https://fightdementia.org.au/about-dementia-and-memory-loss/dementia-and-driving

Alzheimer's Australia has a number of useful resources to support patients and carers with respect to their driving. These include two useful fact sheets:

- Information for people with dementia – Driving https://fightdementia.org.au/sites/default/files/helpsheets/Helpsheet-InformationForPeopleWithDementia04-DrivingAndDementia_english.pdf
- Caring for someone with dementia – Driving https://fightdementia.org.au/sites/default/files/helpsheets/Helpsheet-CaringForSomeone07-Driving_english.pdf
- Dementia and driving – Guide for families and carers https://vic.fightdementia.org.au/sites/default/files/VIC/documents/Dementia-and-Driving-guide-for-family-carers.pdf

Alzheimer's Australia also has state-specific information regarding dementia and driving including licensing requirements. Refer to Part B section 6.1 Dementia.

State-and territory-based resources

Australian Capital Territory

- Seniors Moving Safely www.seniorsmovingsafely.org.au

New South Wales

- Roads and Maritime Services – Older drivers http://www.rms.nsw.gov.au/roads/licence/older-drivers/index.html
- NRMA older drivers http://www.mynrma.com.au/motoring-services/education/older-drivers.htm

Northern Territory

- Northern Territory Department of Transport https://nt.gov.au/driving/licences

Queensland

- Medical certificates for older drivers http://www.qld.gov.au/seniors/transport/safe-driving/
- Royal Automobile Club of Queensland (RACQ) – Older Drivers www.racq.com.au/motoring/roads/road_safety/older_road_users

South Australia

- South Australian Seniors Transport http://www.sa.gov.au/topics/seniors/transport

Tasmania

- Tasmanian Older Drivers website http://www.transport.tas.gov.au/licensing/information/older_drivers

Victoria

- TAC – older drivers http://www.tac.vic.gov.au/road-safety/safe-driving/older-drivers
- VicRoads – older drivers https://www.vicroads.vic.gov.au/safety-and-road-rules/driver-safety/older-drivers
- VicRoads – dementia https://www.vicroads.vic.gov.au/licences/medical-conditions-and-driving/medical-conditions/dementia
- How safe is your car? – older drivers www.howsafeisyourcar.com.au/Driving-Safely/Older-Drivers/

Western Australia

- Senior driver licence renewals http://www.transport.wa.gov.au/licensing/renew-my-drivers-licence-seniors-85-plus.asp

Other

- DrugInfo Clearinghouse – safer driving: http://www.druginfo.adf.org.au/information-for/information-for-older-drivers

3. Roles and responsibilities

Roles and responsibilities of those involved in fitness to drive assessment and decision making are summarised in Table 2 and discussed in this section. Legislation relating to driver and health professional responsibilities is also summarised in Appendix 3: Legislation relating to reporting.

Figure 2 summarises the relationships and interactions between the driver licensing authority, health professional and vehicle driver.

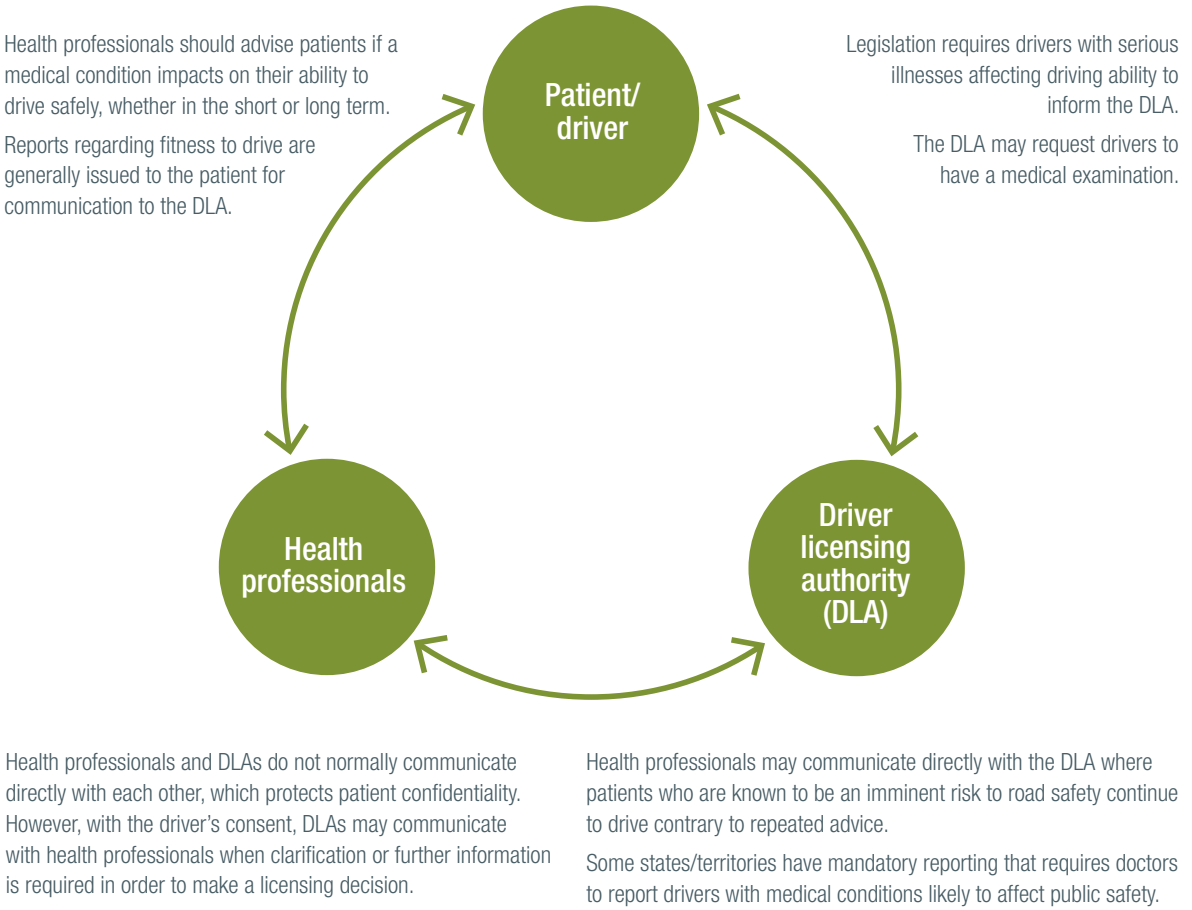
The responsibility for issuing, renewing, suspending, refusing or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority. Licensing decisions are based on a full consideration of relevant factors relating to the driver's health and driving performance record.

Table 2: Key roles and responsibilities with respect to fitness to drive

Driver	Health professional	Driver licensing authority
• To report to the driver licensing authority any long-term or permanent injury or illness that may affect their ability to drive safely. • To respond truthfully to questions from a health professional regarding their health status and the likely impact on their driving ability. • To adhere to prescribed medical treatment. • To comply with requirements of a conditional licence as appropriate, including periodic medical reviews.	• To assess the person's fitness to drive based on relevant clinical and functional information and on the relevant published medical standards. • To advise the person regarding: - the impact of their medical condition or disability on their ability to drive and recommend restrictions, ongoing monitoring, rehabilitation/training or transitional arrangements as required - their responsibility to report their condition to the driver licensing authority if their long-term or permanent injury or illness may affect their ability to drive safely. • To treat, monitor and manage the person's condition with ongoing consideration of their fitness to drive. • To report to the driver licensing authority regarding a person's fitness to drive, including their suitability to hold a conditional licence, in accordance with legislated requirements and public safety and ethical considerations. Note: Medical practitioners or other clinicians do not have the legal authority to restrict or reinstate a patient's driver licence; this can only be done by the relevant driver licensing authority.	• To make all decisions regarding the licensing of drivers. The driver licensing authority will consider reports provided by health professionals, police and members of the public, as well as crash involvement and driving histories. • To make all decisions regarding the issue of conditional licences. The driver licensing authority will consider the recommendations of health professionals as well as other relevant factors. • To educate the driving public of their responsibility to report any long-term or permanent injury or illness to the driver licensing authority if the condition may affect their ability to drive safely.

Brochures describing the responsibilities of patients, examining professionals and licensing authorities may be available from state and territory driver licensing authorities. Refer to Appendix 9 for contact details. Information is also available from the Austroads website at <www.austroads.com.au>.

Figure 2: Relationships/interaction between patients/drivers, health professionals and the driver licensing authority (DLA)



The above relationships are generalised and may vary between states/territories in terms of legislative requirements. For specific requirements refer to Appendix 3: Legislation relating to reporting.

3.1 Roles and responsibilities of driver licensing authority

The responsibility for issuing, renewing, suspending, refusing or cancelling or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are individualised and are based on a full consideration of relevant factors relating to:

- the driver's health
- the driver's functional capacity (including their ability to compensate for any impairment)
- the driver's insight into their condition
- the driver's compliance with any prescribed treatment
- the driver's compliance with existing licence conditions
- the driver's driving history
- any other relevant information.

In making a licensing decision, the authority will seek input either directly from the driver and/or from a health professional. The authority will also act on unsolicited reports from health professionals, the police or members of the public regarding a person's fitness to drive.

Under national driving licensing arrangements current at the time of publication, the driver licensing authority issuing the driver licence and the driver's residential address should be in the same jurisdiction.

Payment for health examinations or assessments related to fitness to drive is generally not the responsibility of the driver licensing authority.

Each state and territory has an appeal system for situations where drivers do not agree with a decision made about their driver licences. The driver licensing authority will inform drivers of the appeal process when informing them of the licensing decision.

Driver licensing authorities can provide health professionals with information relating to:

- licensing and administrative processes
- medical aspects – while not all driver licensing authorities have medical officers on staff, they are able to assist health professionals who require guidance with particular cases
- practical driver assessments
- legal and ethical issues – the driver licensing authority can provide guidance regarding the legislative requirements for licensing and assessing fitness to drive. For general advice regarding legal or ethical issues, health professionals should contact their professional defence organisation.

Appendix 9 contains the contact details for driver licensing authorities around Australia.

3.2 Roles and responsibilities of drivers

In all states and territories, legislation requires a driver to advise their driver licensing authority of any long-term or permanent injury or illness that may affect their safe driving ability.

At licence application and renewal, drivers can be asked to complete a declaration regarding their health, including whether they have any long-term conditions such as diabetes, epilepsy or cardiovascular disease. Based on this information, the driver licensing authority may request a medical examination to confirm a driver's fitness to hold a driver licence. In the case of medical examinations requested by the driver licensing authority, drivers have a duty to declare their health status to the examining health professional.

Drivers are also required to report to the driver licensing authority when they become aware of a health condition that may affect their ability to drive safely. There is some variability in these laws between the states and territories, thus drivers and health professionals should be aware of the specific reporting requirements in their jurisdiction and should contact their driver licensing authority for details of local requirements. These laws may impose penalties for failure to report (refer to Appendix 3: Legislation relating to reporting).

Drivers may be liable at common law if they continue to drive knowing that they have a condition that is likely to adversely affect safe driving. Drivers should be aware that there may be long-term financial, insurance and legal consequences where there is failure to report an impairment to their driver licensing authority.

3.3 Roles and responsibilities of health professionals

Patients rely on health professionals to advise them if a permanent or long-term injury or illness may affect their safe driving ability and whether it should be reported to the driver licensing authority. The health professional has an ethical obligation, and potentially a legal one, to give clear advice to the patient in cases where an illness or injury may affect safe driving ability. Health professionals are advised to note in the patient's medical record the nature of the advice given.

3.3.1 Confidentiality, privacy and reporting to the driver licensing authority

Health professionals have both an ethical and legal duty to maintain patient confidentiality. The ethical duty is generally expressed through codes issued by professional bodies. The legal duty is expressed through legislative and administrative means and includes measures to protect personal information about a specific individual. The duty to protect confidentiality also applies to driver licensing authorities.

The patient–professional relationship is built on a foundation of trust. Patients disclose highly personal and sensitive information to health professionals because they trust that the information will remain confidential. If such trust is broken, many patients could either forgo examination/treatment and/or modify the information they give to their health professional, thus placing their health at risk.

Although confidentiality is an essential component of the patient–professional relationship, there are, on rare occasions, ethically and/or legally justifiable reasons for breaching confidentiality. With respect to assessing and reporting fitness to drive, the duty to maintain confidentiality is legally qualified in certain circumstances in order to protect public safety. The health professional should consider reporting directly to the driver licensing authority in situations where the patient is either:

- unable to appreciate the impact of their condition
- unable to take notice of the health professional's recommendations due to cognitive impairment, or
- continues driving despite appropriate advice and is likely to endanger the public.

In the Australian Capital Territory, New South Wales, Queensland, Tasmania, Victoria and Western Australia, statute provides that health professionals who make such reports to driver licensing authorities without the patient's consent but in good faith that a patient is unfit to drive are protected from civil and criminal liability. The Northern Territory does not currently provide indemnity cover (refer to Appendix 3: Legislation relating to reporting).

In South Australia and the Northern Territory current legislation imposes mandatory reporting. A positive duty is imposed on health professionals to notify the relevant authority in writing of a belief that a driver is physically or mentally unfit to drive (refer to Appendix 3: Legislation relating to reporting).

It is preferable that any action taken in the interests of public safety should be taken with the consent of the patient wherever possible and should certainly be undertaken with the patient's knowledge of the intended action.

The patient should be fully informed as to why the information needs to be disclosed to the driver licensing authority and be given the opportunity to consider this information. Failure to inform the patient will only exacerbate the patient's (and others') mistrust in the patient–professional relationship. It is recognised that there might be an occasion where the health professional feels that informing the patient of the disclosure may place the health professional at risk of violence. Under such circumstances the health professional must consider how to appropriately manage such a situation (refer to section 3.3.3 Patient hostility towards the health professional).

In making a decision to report directly to the driver licensing authority, it may be useful for the health professional to consider:

- the seriousness of the situation (i.e. the immediate risks to public safely)
- the risks associated with disclosure without the individual's consent or knowledge, balanced against the implications of non-disclosure
- the health professional's ethical and professional obligations
- whether the circumstances indicate a serious and imminent threat to the health, life or safety of any person.

Examinations requested by a driver licensing authority

When a patient presents for a medical examination at the request of a driver licensing authority the situation is different with respect to confidentiality. The patient may present with a form or letter from the driver licensing authority requesting an examination for the purposes of licence application or renewal, or as a stipulation of a conditional licence. The completed form will generally be returned by the patient to the driver licensing authority, thus there is no risk of breaching confidentiality or privacy, provided only information relevant to the patient's driving ability is included on the form.

Privacy legislation

All health professionals and driver licensing authorities should be aware of the Australian Privacy Principles[8], and other privacy legislation applicable in their jurisdiction when collecting and managing patient information and when forwarding such information to third parties.

3.3.2 Patient–health professional relationship

It is expected that the health professional will be able to act objectively in assessing a patient's fitness to drive. If this cannot be achieved – for example, where there may be the possibility of the patient ceasing contact or avoiding all medical management of their condition – health professionals should be prepared to disqualify themselves and refer their patient to another practitioner.

A difficult ethical situation arises in the event that the health professional has reason to doubt the veracity of the information provided by a patient regarding their health, and their capacity to drive safely. It is suggested the following strategies may be considered:

- contact one's professional indemnity insurer, discuss the problem and document the advice
- refer the person for specialist opinion
- contact the relevant driver licensing authority and, without identifying the patient, discuss the problem and document the advice.

With these additional inputs it may be possible to carefully discuss and reassess the situation with the patient, taking care to document the proceedings.

3.3.3 Patient hostility towards the health professional

Sometimes patients feel affronted by the possibility of restrictions to their driving or withdrawal of their licence and may be hostile towards their treating health professional. In such circumstances the health professional may elect to refer the driver to another practitioner or may refer them directly to the driver licensing authority without a recommendation regarding fitness to drive. Driver licensing authorities recognise that it is their role to enforce the laws on driver licensing and road safety and will not place pressure on health professionals that might needlessly expose them to risk of harassment or intimidation.

The health professional may refer the patient to the standards in this publication when dealing with such situations. They may point out that the standards are developed by the NTC in cooperation with medical and road safety experts based on current evidence and are enforced by driver licensing authorities.

Further information about managing patient–professional hostility is available via the Royal Australian College of General Practitioners website at <http://www.racgp.org.au/your-practice/business/tools/safetyprivacy/gpsafeplace/>.

3.3.4 Dealing with individuals who are not regular patients

Care should be taken when health professionals are dealing with drivers who are not regular patients. Some drivers may seek to deceive health professionals about their medical history and health status and may 'doctor shop' for a desirable opinion. If a health professional has doubts about an individual's reason for seeking a consultation, they should consider:

- asking permission from the individual to request their medical file from their regular health professional
- conducting a more thorough examination of the individual than would usually be undertaken.

3.3.5 Role of the specialist

In most circumstances, medical assessments of drivers of both commercial and private vehicles can be conducted by a general practitioner. However, if doubt exists about a patient's fitness to drive or if the patient's particular condition or circumstances are not covered specifically by the standards, review by a specialist experienced in the management of the particular condition is warranted and the general practitioner should refer the patient to such a specialist.

In the case of commercial vehicle drivers, the opinion of a medical specialist is generally required for initial recommendation and periodic review of a conditional licence. The main exceptions to this are set out in this paragraph and in section 4.4.7 What if there is a delay before a specialist can be seen?

This requirement reflects the higher safety risk for commercial vehicle drivers and the consequent importance of expert opinion. In circumstances where access to specialists is limited, once the initial recommendation is made by a specialist, alternative arrangements for subsequent reviews by the general practitioner may be made with the approval of the driver licensing authority and with the agreement of the specialist and the treating general practitioner.

Note: The opinion of a specialist is relevant only to their particular specialty. General practitioners are in a good position to integrate reports from various specialists in the case of multiple disabilities to help the driver licensing authority make a licensing decision. An occupational physician or an authorised health professional may provide a similar role for drivers of commercial vehicles and their employers.

For the purposes of this publication, the term 'specialist' refers to a medical or surgical specialist other than a general practitioner, acknowledging that Fellows of the Royal Australian College of General Practitioners have specialist status under current medical registration arrangements (refer to <www.medicalboard.gov.au>).

Box 2: Telehealth

All parties are encouraged to use telemedicine technologies such as videoconferencing to minimise the difficulties associated with limited access to specialists.

People in telehealth-eligible areas of Australia have access to specialist video consultations under Medicare. This provides many patients with easier access to specialists, without the time and expense involved in travelling to major cities.

On 1 November 2012, the MBS telehealth items were amended to require that the patient and remote specialist be at least 15 kilometres apart. Eligibility is determined according to the Australian Standard Geographical Classification Remoteness Area (ASGC-RA) classifications. MBS benefits will now only be available for services provided to patients who are located outside of RA1 – Major Cities.

Further information is available from Medicare at <https://www.humanservices.gov.au/health-professionals/services/medicare/mbs-and-telehealth>.

3.3.6 Role of driver assessors and trainers

As previously described, a practical driver assessment (on- or off-road) may be required to assess the impact of injury, illness or the ageing process on driving skills including judgement, decision-making skills, observation and vehicle handling. Such assessments are particularly useful in borderline cases or where the impact on functionality is not clear. They should be conducted by suitably qualified assessors. Advice regarding the availability and access to driver assessors is available from the local driver licensing authority and Occupational Therapy Australia (refer also to Appendix 10: Specialist driver assessors).

Recommendations following assessment may relate to licence status, the need for vehicle modifications, rehabilitation or retraining (refer to section 2.3.2 Driver rehabilitation), licence conditions or restrictions (refer to section 4.4 Conditional licences) and reassessment.

Driver training and rehabilitation providers have a role in supporting drivers to retain and regain skills as a result of injury or illness, and to adapt to vehicle modifications. Training may be conducted on-road or may be simulator- or computer-based.

3.3.7 Role of independent experts/panels

Recognising that not all medical and driving circumstances can be specifically or fully covered in these standards, driver licensing authorities may draw on independent expert medical advice to inform borderline or otherwise difficult licensing decisions.

3.3.8 Documentation

Clear documentation of the assessment results and communication with the patient and driver licensing authority is important. Refer to section 5.1 Which forms to use.

4. Licensing and medical fitness to drive

4.1 Medical standards for private and commercial vehicle drivers

This publication outlines two sets of medical standards for driver licensing or authorisation: private vehicle driver standards and commercial vehicle driver standards.

The choice of which standards to apply when examining a patient for fitness to drive is guided by both the type of vehicle (e.g. heavy vehicle) and the purpose for which the driver is authorised to drive (e.g. carrying passengers or dangerous goods). Generally, the commercial vehicle driver medical standards apply to drivers of heavy vehicles, public passenger vehicles or vehicles carrying dangerous goods. A dangerous goods driver licence is required for transport of dangerous goods in an individual receptacle with a capacity greater than 500 litres or net mass greater than 500 kilograms. The commercial vehicle driver standards are more stringent than the private standards and reflect the increased risk associated with motor vehicle crashes involving such vehicles (refer to section 4.2 Considerations for commercial vehicle licensing).

The **private standards** should be applied 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.

The **commercial standards** should be applied 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, etc.)
- 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.

4.2 Considerations for commercial vehicle licensing

The assignment of medical standards for vehicle drivers is based on an evaluation of the driver, passenger and public safety risk, where *risk = likelihood of the event × severity of consequences*.

Commercial vehicle crashes may present a severe threat to passengers, other road users (including pedestrians and cyclists) and residents adjacent to the road. Such crashes present potential threats in terms of spillage of chemicals, fire and other significant property damage.

Commercial vehicle drivers generally spend considerable time on the road, thus increasing the likelihood of a motor vehicle crash. They may also be monitoring various in-vehicle communication and work-related systems – a further factor that increases the likelihood of a crash. Crash data identifies that commercial vehicle drivers are more than twice as likely to be involved in a fatal crash compared with other drivers. On the other hand, crashes involving private vehicle drivers are likely to have less severe consequences. Therefore, to ensure that the risk to the public is similar for private and commercial vehicle drivers, the medical fitness requirements for the latter must be more stringent. This is required in order to reduce to a minimum the risk of crash due to long-term injuries or illnesses. The standards outlined in this publication reflect these differences.

The standards also acknowledge and allow for the variability in risk among different commercial vehicle drivers. The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence (refer to section 4.4 Conditional licences). For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle on his/her own property may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a patient and when providing advice to the driver licensing authority.

In developing the standards, a number of approaches have been adopted to manage the increased risk associated with driving a commercial vehicle (refer to Table 3). These approaches include:

- There are generally longer non-driving periods prescribed for commercial vehicle drivers compared with private vehicles, for example, after a seizure or heart attack.
- There is generally a requirement that a specialist (rather than general practitioner) provide information regarding a conditional licence for a commercial vehicle driver (refer to section 4.4 Conditional licences).
- Some medical conditions may preclude a person from driving a commercial vehicle, but they may still be eligible to hold a full or conditional licence for a private vehicle, for example, early dementia.
- The review period for a conditional licence may be shorter for a commercial vehicle driver.

Table 3: Choice of standard according to vehicle/licence type

<table>
<tr><th colspan="2">National licence classes</th><th>Which standard to apply
(private or commercial)</th></tr>
<tr><td>Motorcycle (R)
  </td><td>Motorbike or motortrike.</td><td>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.</td></tr>
<tr><td>Car (C)
  </td><td>Vehicle not more than 4.5 tonnes GVM (gross vehicular mass) and seating up to 12 adults including the driver.</td><td rowspan="2">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.</td></tr>
<tr><td>Light rigid (LR)
  </td><td>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.</td></tr>
<tr><td>Medium rigid (MR)
  </td><td>Any two-axle rigid vehicle greater than 8 tonnes GVM, plus a trailer of no more than 9 tonnes GVM.</td><td rowspan="4">Commercial standards apply at ALL times.</td></tr>
<tr><td>Heavy rigid (HR)
  </td><td>Any rigid vehicle with three or more axles greater than 8 tonnes GVM, plus a trailer of no more than 9 tonnes GVM.</td></tr>
<tr><td>Heavy combination (HC)
  </td><td>Prime mover + single semi-trailer greater than 9 tonnes GVM and any unladen converter dolly trailer.</td></tr>
<tr><td>Multiple combination (MC)
  </td><td>Heavy combination vehicle with more than one trailer.</td></tr>
<tr><td colspan="3">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.</td></tr>
</table>

4.3 Prescribed periodic medical examinations for particular licensing/authorisation classes

Some classes of driver are required to present periodically for prescribed examinations based on the standards as part of their licensing or authorisation requirements.

Such requirements may vary between states and territories and might apply, for example, to:

- drivers of vehicles that are physically difficult to drive or require the capacity to monitor many vehicle functions, for example, multiple combinations
- drivers of vehicles for which the consequences of a crash are usually serious, for example, drivers holding a dangerous goods driver licence or drivers of public passenger vehicles.

There are also requirements in some states and territories for older drivers to undergo periodic medical assessment.

These requirements are determined and directed by individual state and territory driver licensing authorities and are outlined in Appendix 1: Regulatory requirements for driver testing. Industry groups such as the Australian Trucking Association and national programs such as the Fatigue Management Program under the National Heavy Vehicle Accreditation Scheme may also require drivers to have periodic examinations; however, the requirements of these programs are not discussed specifically in this standard.

4.4 Conditional licences

4.4.1 What is a conditional licence?

A conditional licence provides a mechanism for optimising driver and public safety while maintaining driver independence when a driver has a long-term or progressive health condition or injury that may impact on their ability to drive safely. 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. A conditional licence therefore offers an alternative to withdrawal of a licence and enables individual case-based decision making.

4.4.2 Who allocates a conditional licence?

The final decision regarding conditional licences rests with the driver licensing authority (refer to section 3.1 Roles and responsibilities of the driver licensing authority). The decision is based on information provided by the health professional and on road safety considerations. The driver licensing authority will issue a conditional licence to a driver with a long-term injury or illness on the basis that any additional road safety risk posed by the person driving is acceptable.

4.4.3 What is the role of the health professional?

While the driver licensing authority makes the final decision about whether a driver is eligible for a conditional licence, the health professional provides information to assist the authority in its decision making. The health professional should advise the driver licensing authority of:

- which medical requirements (for an unconditional licence) have not been met
- the likely adequacy of treatments or vehicle modifications in optimising driver capacity
- the plan to monitor the driver's performance and the medical condition, including timeframes for review
- if appropriate, information relating to possible licence conditions, for example, vehicle type or licence restrictions such as no night driving, radius restriction or downgrade to a lower class of licence
- any other medical information that may be relevant to the driving task.

This information is needed so the driver licensing authority can make an informed decision and determine what conditions will be endorsed on the licence.

4.4.4 What sort of conditions/restrictions may be recommended?

Examples of licence conditions, restrictions or vehicle modifications are shown in Table 4. These are indicative only and will vary depending on the medical condition and the type of licence. They include standard conditions that will appear as codes on the driver licence (e.g. corrective lenses, automatic transmission, hand controls). They also include conditions that are 'advisory' in nature and as such may not appear on the actual licence (e.g. take medication as prescribed, use a built-up seat or cushions, don't drive more than *x* hours in any 24-hour period).

Table 4: Examples of licence conditions that may be required by the driver licensing authority*

Example of disability/situation	Examples of licence conditions
Left leg disability / left arm disability	Automatic transmission
Short stature	Built-up seat and pedals
Loss of leg function	Hand-operated controls
Reduced lower limb strength	Power brakes required
Reduced upper limb strength	Power steering required; steering knob with hand controls
Short leg(s)	Extended pedals
Hearing deficiency (commercial drivers)	Hearing aid must be worn (commercial vehicles)
Deafness, both ears (commercial vehicle driver)	Vehicle fitted with two external rear-view mirrors and other devices as required to assist external visual surveillance and recognition of emergency vehicles (e.g. additional wide-angle internal mirror)
Eyesight deficiency	Prescribed corrective lenses must be worn
Loss of limb function	Prosthesis must be worn
Degenerative diseases	Periodic review by driver assessor
Night blindness	Driving in daylight hours only
Age-associated deteriorations, for example, attention	Driving during off-peak only; drive within a 20 km radius of place of residence; in daylight hours only; no freeway driving
Spinal cord injury (above T12)	Not to drive when temperature more than 25°C unless vehicle air-conditioned
Substance misuse (alcohol)	Ignition interlock device

*These are not mandatory requirements and may be unsuitable in some circumstances.

One option available to maintain a driver's independence despite a reduction in capacity is to recommend that an area restriction be placed on the licence. This effectively limits where the person can drive and is most commonly expressed as a kilometre radius restriction based on their home address. Drivers should be capable of managing usual driving demands (e.g. negotiating intersections, giving way to pedestrians) as required in their local area. These licence conditions are only suitable for drivers who can reasonably be expected to understand and remember the limits as well as reliably compensate for any functional declines. The ability to respond appropriately and in a timely manner to unexpected occurrences such as roadworks or detours that require problem solving should also be considered. Thus, individuals lacking insight or with significant visual, memory or cognitive-perceptual impairments are usually not suitable candidates for a radius restriction (refer to Part B section 6.1 Dementia).

The health professional can support a patient in making an application for a conditional licence by indicating the patient's driving needs, but the final decision/responsibility rests with the driver licensing authority.

4.4.5 What monitoring is required for a conditional licence?

Conditional licences should be subject to periodic review so that the medical condition or disability, including the compliance with treatments, can be monitored. The frequency of formal review with regard to licence status is sometimes specified in this publication but often is left to the judgement of the health professional, given the variations in severity of a medical condition or disability and the possible effects on driving.

In the course of providing advice regarding a conditional licence, health professionals should advise the driver licensing authority of the period for which a conditional licence could be issued before formal review. This may be months or years depending on the condition in question and its progression; these reviews differ from the ordinary follow-up consultations that a health professional may be offering in the course of general management.

At the time of a periodic review or during general management of a patient's condition, it may become apparent that the patient no longer meets the requirements of the conditional licence because their health has deteriorated for some reason. The patient should be advised to inform the driver licensing authority of their changed circumstances with respect to fitness to drive (refer to section 3.2 Roles and responsibilities of drivers).

4.4.6 What about conditional licences for commercial vehicle drivers?

In the case of commercial vehicle drivers, the opinion of a medical specialist is generally required for consideration of a conditional licence – the main exceptions to this are set out in the next paragraph and in section 4.4.7 What if there is a delay before a specialist can be seen? This requirement reflects the higher safety risk for commercial vehicle drivers and the consequent importance of expert opinion.

In areas where access to specialists may be difficult, the driver licensing authority may agree to a process in which:

- **initial assessment and advice for the conditional licence is provided by a specialist**
- **ongoing periodic review for the conditional licence is provided by the treating general practitioner, with the cooperation of the specialist.**

Where appropriate and available, the use of telemedicine technologies such as videoconferencing is encouraged as a means of facilitating access to specialist opinion (refer to section 3.3.5 Role of the specialist).

In addition to the examples in Table 4, the driver licensing authority may consider issuing a conditional commercial vehicle licence, for instance, in certain circumstances or situations where crash risk exposure is reduced. Examples of such circumstances or situations may include:

- off-road driving of commercial vehicles where licences are still required
- where driving is not the primary occupation, for example, mechanics who need to test drive the vehicle, primary producers who need to get product to market and only need to drive a couple of times a year and drivers who need to move buses not carrying public passengers within a bus depot or from a nearby workshop.

4.4.7 What if there is a delay before a specialist can be seen?

In the case of a commercial vehicle driver or applicant for a commercial vehicle licence who is assessed by a general practitioner as not meeting the criteria to hold an unconditional licence for one or more conditions but who may meet the criteria to hold a conditional licence, the driver licensing authority may permit the person to drive, or to continue to drive, a commercial vehicle pending assessment of the person by an appropriate specialist or specialists if:

- the person has an appointment to see the relevant specialist(s) at the earliest practicable opportunity
- in the opinion of the general practitioner the condition is not, or the conditions are not, likely to lead to acute incapacity or loss of concentration before the assessment or assessments occur.

Examples of such conditions include early peripheral neuropathy, early rheumatoid arthritis or diabetes treated by diet and exercise alone. Examples of conditions that could lead to acute incapacity or loss of concentration include ischaemic heart disease, sleep apnoea, or blackouts other than vasovagal.

In applying this section the driver licensing authority may impose conditions on the licence.

4.5 Reinstatement of licences or removal or variation of licence conditions

Situations may arise in which a medical condition improves to such an extent that the patient's licence restriction may be reconsidered by the driver licensing authority, resulting in reinstatement of the licence or removal or variation of licence conditions, including periodic review.

Under such circumstances a letter or notification to this effect from the treating health professional (refer to Appendix 2.2: Medical condition notification form) should include:

- details of the requirements previously not met
- the response to treatment and the long-term prognosis
- the duration of improvement
- other relevant information including consideration of the driving task (e.g. the requirements of a person who drives occasionally to the shops are likely to be different from those of a person undertaking extensive interstate travel).

The driver licensing authority will consider the request and advise the driver of their determination; licence decisions may be contingent on the requirement for the driver/applicant to undertake and pass an on-road evaluation to confirm their driving abilities.

5. Assessment and reporting process – step by step

Assessing fitness to drive is based on the decision-making processes outlined in Figure 3. The nature and extent of the examination will depend on the circumstances and the reasons for the examination. Details of the process and administrative requirements are described in this section and are further illustrated in Figure 4 and Figure 5. Note also the further considerations outlined in section 3: Roles and responsibilities.

Figure 3: Medical decision-making process for assessing fitness to drive

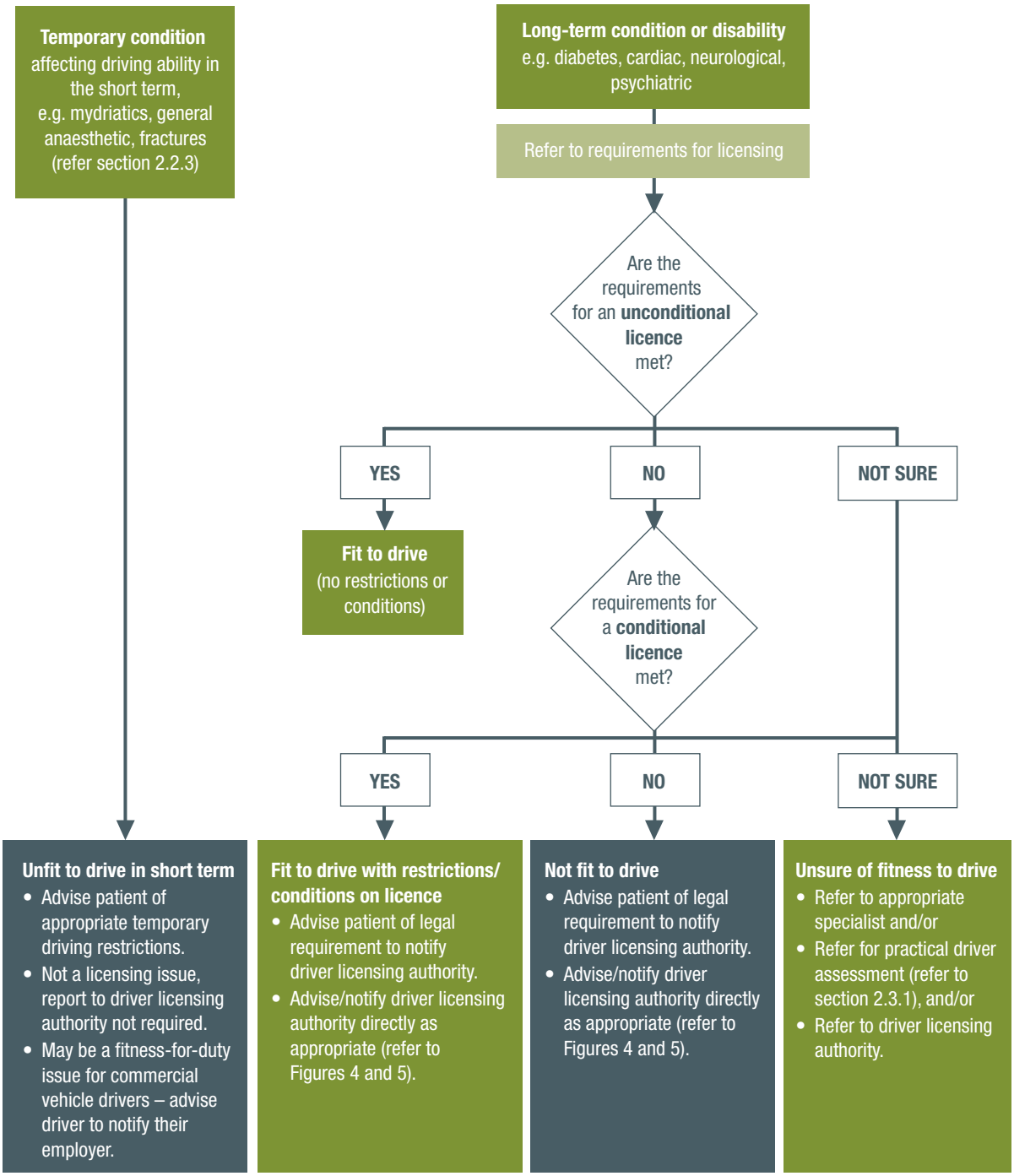


Figure 4: Conducting an examination at the request of a driver licensing authority

The following flow chart summarises the process involved when an examination and report is requested by a driver licensing authority (DLA).

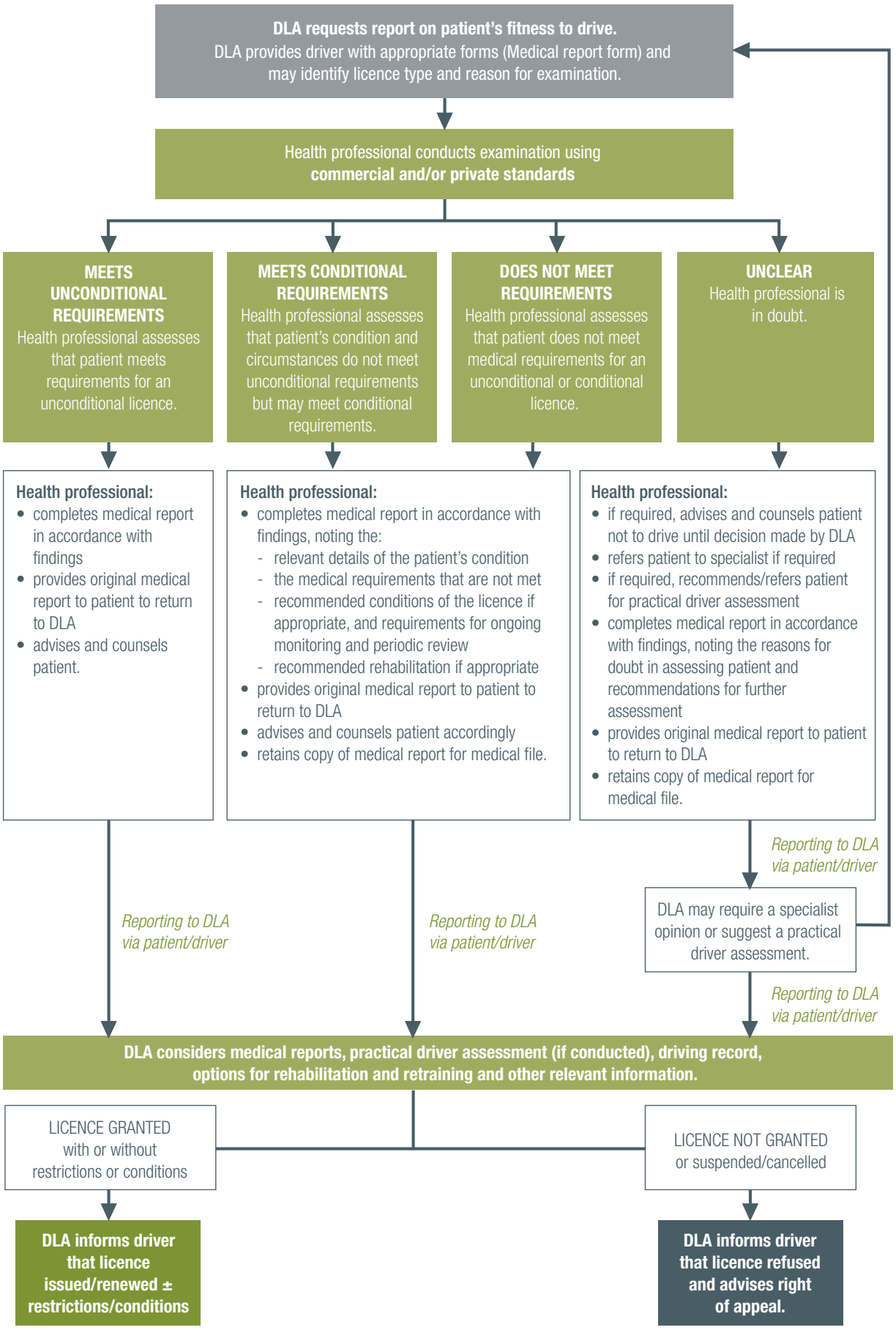
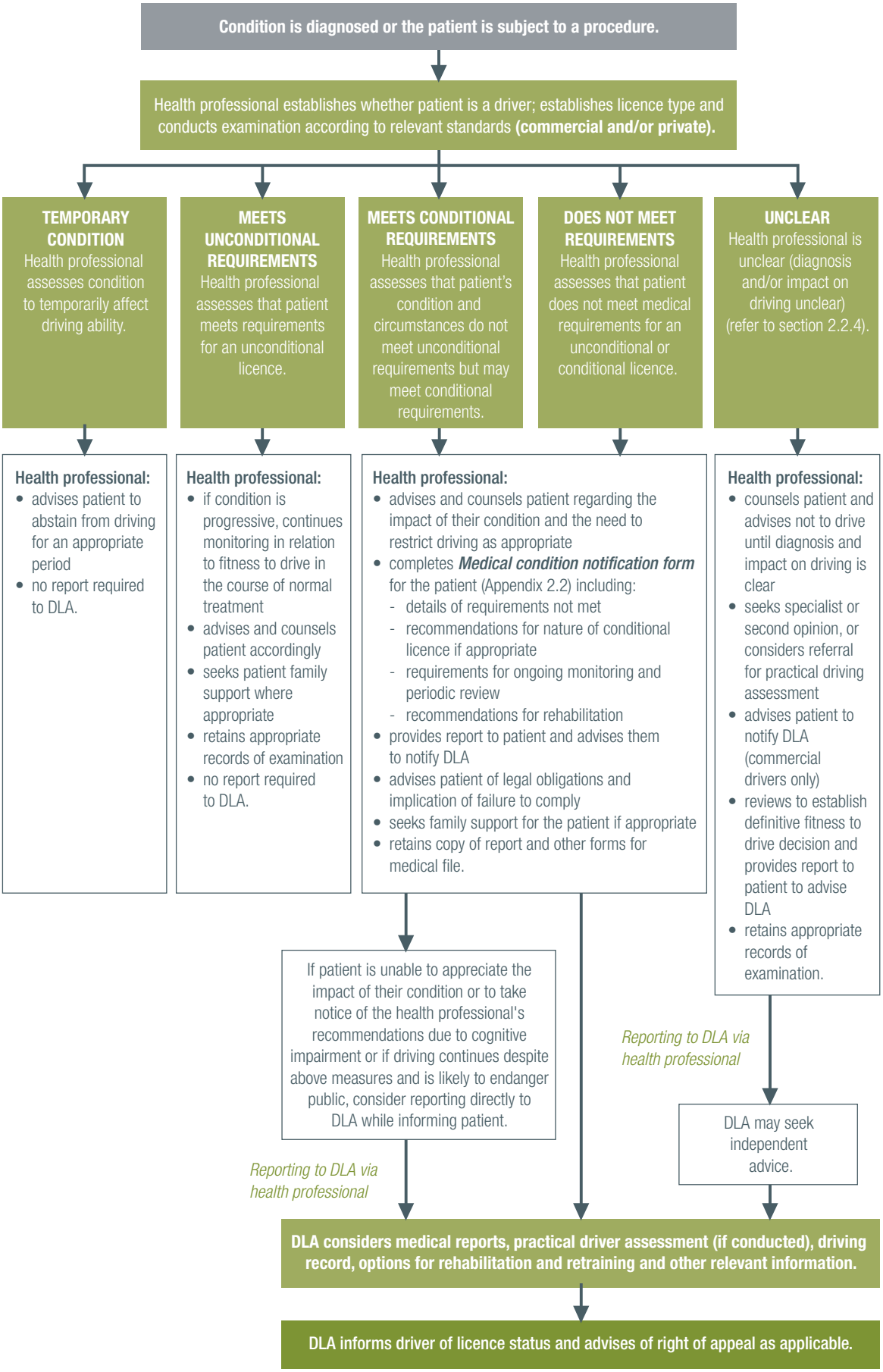


Figure 5: Assessing and reporting on fitness to drive in the course of patient treatment

The following flow chart summarises the process involved when a health professional assesses fitness to drive in the course of treating a patient.



5.1 Which forms to use

5.1.1 When conducting an assessment at the request of a driver licensing authority

When conducting an assessment at the request of a driver licensing authority, the key form is the **Medical report**. This form is the mechanism for communication between the health professional and the driver licensing authority about the patient's fitness (or otherwise) to drive, albeit via the patient/driver. It should be completed with details of any medical requirements not met as well as details of recommended restrictions and monitoring requirements for a conditional licence. For privacy reasons, only medical information relevant to the patient's fitness to drive should be included on this form.

A blank report is provided to the patient by the local driver licensing authority and presented at the time of consultation for completion and signing by the health professional. Some driver licensing authorities insert personal details on their medical report form prior to issuing to a customer. In these circumstances, customers can only obtain the form by attending a motor registry branch or by calling the authority's contact centre. The completed form is returned to the patient/driver for forwarding to the driver licensing authority. The forms used by each state or territory differ in certain administrative aspects but should contain the key elements described in Appendix 2: Forms.

5.1.2 When assessing fitness to drive in the course of patient treatment

If, in the course of treatment, it is considered that a patient's condition may impact on their ability to drive safely, the health professional should, in the first instance, encourage the patient to report their condition to the driver licensing authority. A standard form, ***Medical condition notification form***, has been produced to facilitate this process. Refer to Appendix 2.2: Medical condition notification form or visit <www.austroads.com.au>. If necessary, the health professional may feel obliged to make a report directly to the driver licensing authority using a copy of this form. Most driver licensing authorities will also accept a letter from the treating practitioner or specialist.

Note that such reporting is not required for temporary conditions. Such conditions do not impact on licence status (refer to section 2.2.3 Temporary conditions), but the patient should be advised not to drive until the temporary situation is resolved.

5.2 Steps in the assessment and reporting process

STEP 1: Consider the type of licence held or applied for

The type of licence will determine whether the commercial or private medical standards are referred to, in the case of examinations requested by a driver licensing authority, the authority will identify the type of licence on the request, in cases of assessment as part of an ongoing therapeutic relationship, the health professional will need to determine from the patient what sort of driver licence or authority they hold. Given the potential for patients to withhold information if their mobility or livelihood is threatened, it is helpful for health professionals to be aware of their patients' occupations as a matter of course.

The health professional should refer to Table 3 to determine which standards to apply.

The medical standards for commercial vehicle drivers are more stringent than those for drivers of private vehicles. Thus, a person who is not eligible for a commercial vehicle licence may still be eligible for a private vehicle driver licence. In such cases, both sets of standards may need to be consulted.

STEP 2: Establish relevant medical and driving history

The nature and extent of this aspect of the assessment will vary depending on the particular circumstances. In the case of examinations requested by a driver licensing authority for the first time, a detailed history will need to be established including:

- whether the person has ever been found unfit to drive a motor vehicle in the past, and the reasons
- whether there is any history of epilepsy, syncope or other conditions of impaired consciousness including: sleep disorders; neurological conditions; psychiatric conditions; problems arising from alcohol and/or drugs; diabetes; cardiovascular conditions, especially ischaemic heart disease; locomotor disorders; hearing or visual problems
- whether the person has a history of motor vehicle incidents (crashes, near misses, driving offences)
- whether the person is taking medications that might affect their driving ability
- the existence of other medical conditions that, when combined, might exacerbate any road safety risks (refer to section 2.2.7 Multiple conditions and age-related change)
- the degree of insight the patient has into their ability to drive safely
- the nature of their current driving patterns and needs, for example, how frequently they drive, for what purposes, over what distances and whether they travel at night.

Special examinations called **'for cause' examinations** may be requested by the driver licensing authority out of concern for driving behaviour, such as recurrent motor vehicle crashes or other reasons. Under such circumstances, it is desirable that all aspects of the driver–vehicle–road system (refer to Figure 1) be considered, for example, fatigue factors in the case of a commercial vehicle driver. A full medical history and history of any motor vehicle crashes should be taken and a complete physical examination conducted.

While attention should be given to conditions discussed in Part B of this publication, unusual conditions or the effect of multiple small disabilities affecting the driving task also warrant consideration, investigation and, where justified, specialist referral.

In cases of review assessments requested by the driver licensing authority as a requirement to maintain a conditional licence, the medical history is likely to be well established and the health professional may focus on the recent status of the particular medical condition(s) and the impacts on driving and general functionality.

In cases of assessment as part of an ongoing therapeutic relationship, the medical history is also likely to be well established; however, an exploration of the person's driving history may be undertaken.

STEP 3: Undertake a clinical examination

In the case of examinations requested by a driver licensing authority, a comprehensive clinical examination will generally be required, involving assessment of functionality of various body systems including physical and cognitive functioning. The examination should focus on determining the risk of the patient's involvement in a serious motor crash caused by inability to control the vehicle or inability to act and react appropriately to the driving environment.

This publication focuses on common conditions known to affect fitness to drive in the long term (Part B); however, it is not possible to define all clinical situations where an individual's overall function would compromise public safety. For example, where a person has a systemic disorder or a number of medical conditions, there may be additive or cumulative detrimental effects on judgement and overall function (refer to section 2.2.7 Multiple conditions and age-related change).

Additional tests or referral to a specialist may be required if and when clinical examination raises the possibility of potentially significant problems.

In cases of review assessments requested by the driver licensing authority as a requirement to maintain a conditional licence, the clinical examination may focus on the status and management of the particular medical condition(s) while also considering the development of any other medical issues that have developed and may impact on driving and general functionality.

STEP 4: Consider the clinical examination results in conjunction with the patient's medical history, driving history and driving needs

Upon consideration of the information available, the health professional may draw one of a number of conclusions about the patient's fitness to drive:

(a) The person has a temporary condition that may impact on driving ability in the short term but will not affect licence status.

(b) The person complies with all medical requirements appropriate to the type of licence held or requested.

(c) The person does not meet the unconditional licensing requirements but medical treatments and/or vehicle or driving modifications may enable them to drive safely under a conditional licence.

(d) The person does not meet the medical requirements for an unconditional or conditional licence.

(e) The health professional is in doubt about the patient's fitness to drive.

Where doubt exists about a patient's fitness to drive or when the patient's particular condition or circumstances are not covered precisely by the standards, review by a specialist experienced in the management of the particular condition is warranted. In cases where that specialist may still be uncertain about the relative merits of a particular case, a practical driver assessment is one option that may be appropriate (refer to section 2.3.1 Practical driver assessments). Clearance from the driver licensing authority may be required prior to an assessment taking place. Ultimately, the case may need to be referred to the driver licensing authority for evaluation.

Note: It is the driver licensing authority that is ultimately responsible by law for making the licensing decision. It is sufficient for a professional in such circumstances to prepare a report for the driver licensing authority stating the facts and their opinions clearly.

Where a condition of significance with respect to driving is suspected but not proven (e.g. angina) the health professional should proceed to investigate this. Where there is doubt about the safety of the driver continuing to drive while the condition is being investigated, the patient should be advised accordingly (refer to section 2.2.4 Undifferentiated conditions).

STEP 5: Inform and advise the patient

Health professionals should routinely advise patients about how their condition may impair their ability to drive safely. As part of this process, the patient becomes better informed about the nature of their condition, the extent to which they can maintain control over it, the importance of periodic medical review and the need for regular medication where appropriate.

In the case of temporary conditions that may affect driving ability in the short term, the examining health professional should provide appropriate advice about not driving and should, with the patient's consent, seek support as required from family members. Notification to the driver licensing authority is not required in such instances.

In the case of an examination requested by a driver licensing authority, the advisory process is straightforward due to the fact that the patient is actively seeking an examination as part of a licence application or renewal, or as a requirement of a conditional licence. They will be expected to return the report to the driver licensing authority in order to complete the licensing process. Should the patient be found not to meet the medical criteria, the health professional will take a conciliatory and supportive role while fully explaining the risks posed by the patient's condition with respect to driving a vehicle. The health professional should be particularly aware of the needs of the patient whose livelihood is likely to be affected as a result of the assessment findings. There are also special considerations for dealing with individuals who are not regular patients (refer to section 3.3.4 Dealing with individuals who are not regular patients).

The situation may be more challenging when fitness to drive is considered in the **course of a patient's regular treatment** and they are found not to meet the medical criteria. In such situations the health professional may be seen by the patient to be making the licensing decision even though this is not the case. Nonetheless, where the health professional believes that continued driving or continued unconditional driving would be likely to be dangerous, the patient should be informed of the risk to him or herself, and to others, of continuing to drive. Where possible, it is helpful to involve a family member or friend in this process. The driver should be encouraged to report their condition voluntarily to the driver licensing authority and should be reminded of their legal obligation to do so.

The standards in this publication should be consulted when dealing with any such situation since they carry an authority that is not imposed on the driver by the health professional but by the national consensus of the driver licensing authorities.

Information brochures may be available from the driver licensing authority to support the patient advisory process (refer to Appendix 9: Driver licensing authority contacts). A range of driver information resources are also listed in section 2.3.4 Information and assistance for drivers.

Where patients are found not to meet the medical criteria or when conditions or restrictions are recommended, advice should be provided regarding alternative means of transport. Reference may also be made to disabled car parking and taxi services (refer to Appendix 6: Disabled car parking and taxi services).

STEP 6: Report to the driver licensing authority as appropriate

In the case of an examination requested by a driver licensing authority, the reporting process involves completing the relevant form provided by the driver licensing authority via the patient. Only information relevant to the patient's ability to drive should be included in the report, and it should be signed by the examining professional. The original of the medical report should be provided to the patient to return to the driver licensing authority, and a copy should be kept on file in the patient's medical record. Since the patient generally returns the medical report to the driver licensing authority there is no need for signed consent in this regard. The patient may, however, be asked by the driver licensing authority to provide signed consent for the driver licensing authority to contact the health professional to seek additional information about their condition for the purposes of assessing their fitness to drive.

In the case of assessments made in the course of patient treatment, when encouraging patients to self-report their condition to the driver licensing authority, the health professional should complete a copy of the ***Medical condition notification form*** (refer to Appendix 2.2. Medical condition notification form) and provide this to the patient to take to the driver licensing authority. It is recommended that the health professional retain a copy of the ***Medical condition notification form*** in the patient record. The driver licensing authority will also accept a letter describing the patient's condition and the nature of any driving restrictions recommended.

Providing a medical assessment report in an accepted format will reduce the need for the patient to attend on a second occasion for an assessment requested by the driver licensing authority. It will also reduce the time taken by the driver licensing authority to review the case and arrive at a decision regarding the patient's driver licence status, thus reducing patient stress and uncertainty.

If the health professional is aware that a patient is continuing to drive and is likely to endanger the public, despite the health professional's advice and despite the driver's own obligation to report, reasonable measures to minimise that danger will include notification of the driver licensing authority. A copy of the model ***Medical condition notification form*** (refer to Appendix 2.2: Medical condition notification form) should be used for this purpose, with additional information provided as deemed necessary by the health professional. The patient should be informed of the health professional's intent to report (refer to section 3 Roles and responsibilities).

STEP 7: Record keeping

Appropriate records need to be maintained should further information be required by the driver licensing authority. The forms discussed above (refer to section 5.1 Which forms to use) and included in Appendix 2: Forms are designed to assist in this regard.

STEP 8: Follow-up

A health professional has no obligation to contact the patient or driver licensing authority to determine if the patient has reported their condition to the driver licensing authority as advised by the health professional. However, it is appropriate that the health professional, during future patient contacts, enquires about their driving. This is particularly important for public safety in cases where some cognitive deterioration is detected or suspected. If the patient continues to drive despite advice to the contrary, the health professional should consider notifying the driver licensing authority as indicated above.

If the patient did not notify the driver licensing authority and subsequently became involved in a vehicle crash as a result of their condition/illness, the health professional would not be at risk unless it could be demonstrated that they were aware of the patient's continuing driving and were also aware of the imminent and serious risk (refer to section 3 Roles and responsibilities).

Help for professionals and vehicle drivers

For guidance regarding fitness to drive contact your state or territory driver licensing authority (refer to Appendix 9 for details). Information is also available from the Austroads website at <www.austroads.com.au>.

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Part B: Medical standards

1. Blackouts

1.1 Relevance to the driving task

For the purposes of this standard, the term 'blackout' means a transient impairment or loss of consciousness. Loss of consciousness is clearly incompatible with safe driving. The evidence for crash risk associated with various causes of blackout is discussed in the relevant chapters. This chapter provides guidance regarding the general management of blackouts, with cross-reference to relevant chapters as per Figure 6.

1.2 General assessment and management guidelines

1.2.1 General considerations

Blackouts may occur due to a number of mechanisms including:

- vasovagal syncope or 'faint', which accounts for over 50 per cent of blackouts and may be due to factors such as hot weather, emotion or venepuncture but may also be due to more serious causes that may recur
- syncope due to other cardiovascular causes such as structural heart disease, arrhythmias or vascular disease
- epileptic seizure, which accounts for less than 10 per cent of blackouts
- other causes including metabolic (e.g. hypoglycaemia), drug intoxication or sleep disorder.

Determination of the mechanism of a blackout may be straightforward based on history, investigations and specialist referral, and the person may be managed as per the appropriate chapter. Alternatively, it may require extensive cardiovascular and neurological investigations and referral to several specialists. People should be advised not to drive until the mechanism is ascertained and the corresponding standard met.

Some drivers may attribute a crash or driving mishap to a 'blackout' in order to excuse an event that occurred for some other reason such as inattention or distraction (e.g. a mobile phone conversation). There will also be a small proportion of cases in which a clear cause cannot be established.

1.2.2 Vasovagal syncope

The most common cause of transient loss of consciousness is vasovagal syncope ('fainting'). Where this has been triggered by a well-defined provoking factor or a situation that is unlikely to recur while driving (e.g. prolonged standing, venepuncture or emotional situation), it is not necessary to restrict driving. However, vasovagal syncope may also result from other causes that are not so benign. In such cases, fitness to drive should be assessed according to the cardiovascular conditions standards for syncope (refer to section 2 Cardiovascular conditions).

1.2.3 Blackouts due to medical causes not covered in the standards

If the cause of the blackout is determined to be due to a medical condition not covered in the standards then first principles regarding fitness to drive should be applied (refer to Part A section 2 Principles of assessing fitness to drive). Considerations include the likelihood of recurrence of blackout and the treatability of the condition as well as the nature of the driving task. There should also be an appropriate review period. A more stringent approach should be considered for commercial vehicle drivers.

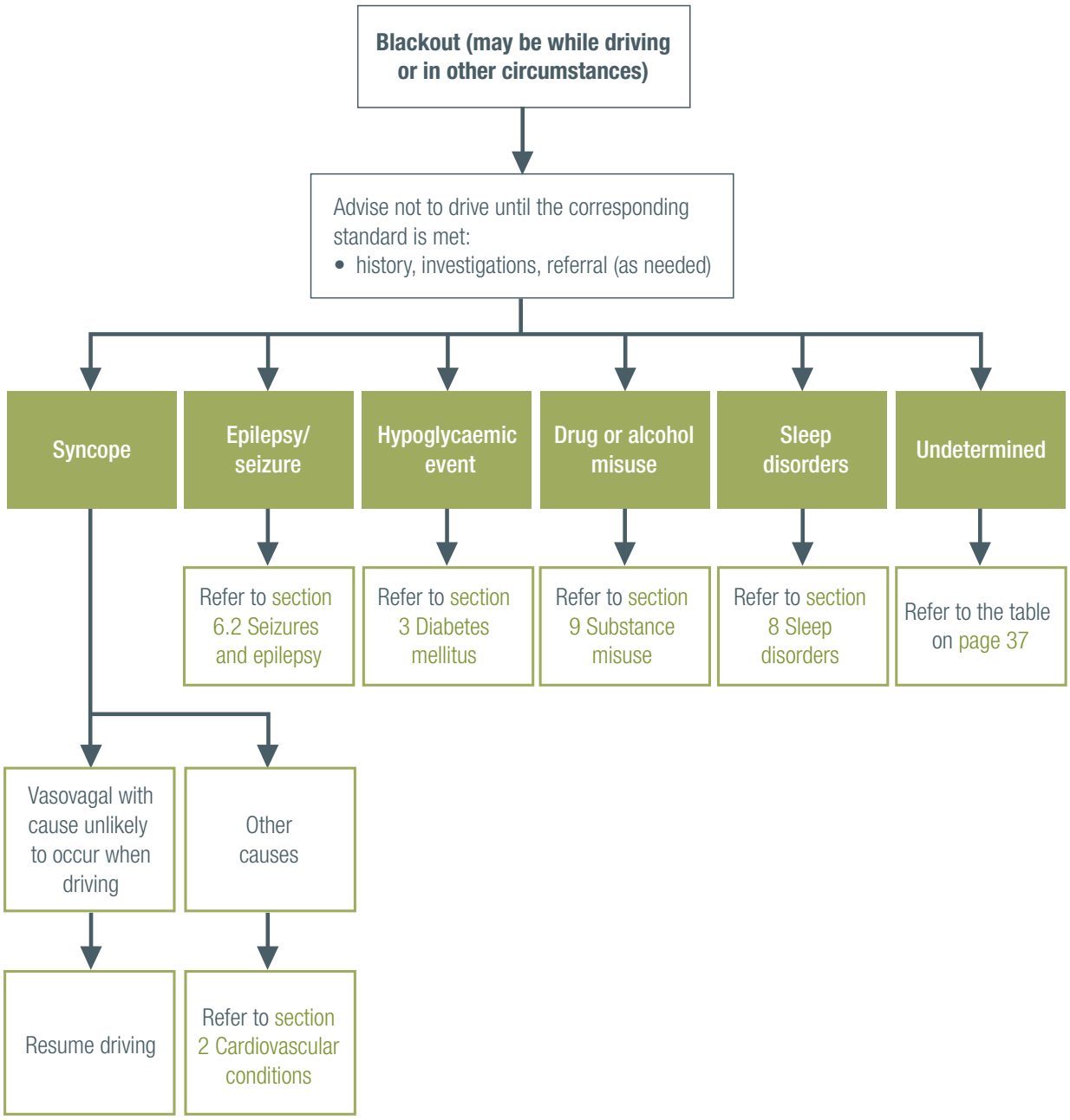
1.2.4 Blackouts of undetermined mechanism

If, despite extensive investigation, the mechanism of a blackout cannot be determined, fitness to drive should be assessed according to the table on page 37. The standards for blackout of undetermined mechanism are similar to those for seizure.

1.3 Medical standards for licensing

Where a firm diagnosis has been made, the standard appropriate to the condition should be referred to in this publication (refer to Figure 6). For blackouts due to medical causes not covered in the standard, refer to first principles (refer to Part A section 2 Principles of assessing fitness to drive). For blackouts of unkonwn mechanism, refer to the criteria in the table on page 37.

Figure 6: Management of blackouts and driving



It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Blackouts of uncertain nature		
Condition	Private standards (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	Commercial standards (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Blackouts (episode/s of impaired consciousness) of uncertain nature	A person is **not** fit to hold an **unconditional licence**: • if the person has experienced blackouts that cannot be diagnosed as syncope, seizure or another condition. If there has been a **single blackout** or more than one blackout within a 24-hour period, 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 criterion is met: • there have been no further blackouts for at least **six months**. If there have been **two or more blackouts** separated by at least 24 hours, 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 criterion is met: • there have been no further blackouts for at least **12 months**.	A person is **not** fit to hold an **unconditional licence**: • if the person has experienced blackouts that cannot be diagnosed as syncope, seizure or another condition. If there has been a **single blackout** or more than one blackout within a 24-hour period, a **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account information provided by an **appropriate specialist** as to whether the following criterion is met: • there have been no further blackouts for at least **five years**. If there have been **two or more blackouts** separated by at least 24 hours, a **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account information provided by an **appropriate specialist** as to whether the following criterion is met: • there have been no further blackouts for at least **10 years**.
Exceptional cases	Where a person with one or more blackouts of undetermined mechanism does not meet the standards above for a conditional licence but may, in the opinion of the treating specialist, be safe to drive, a **conditional licence** may be considered by the driver licensing authority, subject to at least **annual review**: • if the driver licensing authority, after considering information provided by the **treating specialist/s**, considers that the risk of a crash caused by a blackout is acceptably low.	Where a person with one or more blackouts of undetermined mechanism does not meet the standards above for a conditional licence but may, in the opinion of the treating specialist, be safe to drive, a **conditional licence** may be considered by the driver licensing authority, subject to at least **annual review**: • if the driver licensing authority, after considering information provided by the **treating specialist/s**, considers that the risk of a crash caused by a blackout is acceptably low.

Blackouts

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

Further reading

Sorajja D, Nesbitt GC, Hodge DO, Low PA, Hammill SC, Gersh BJ, Shen WK. Syncope while driving: clinical characteristics, causes and prognosis. Circulation. 2009 Sep 15; 120(11): 928–934.

2. Cardiovascular conditions

2.1 Relevance to the driving task

2.1.1 Effects of cardiovascular conditions on driving

Cardiovascular conditions may affect the ability to drive safely due to sudden incapacity such as from a heart attack or arrhythmia. They may also affect concentration and the ability to control a vehicle due to the onset of chest pain, palpitations or breathlessness.

Cardiovascular conditions may also have end-organ effects such as on the brain (stroke), the extremities and the eyes. The relevant chapters should be referred to for advice on the assessment and requirements for these effects (refer to section 6 Neurological conditions and section 10 Vision and eye disorders).

2.1.2 Effects of driving on the heart

A further problem in those who have established ischaemic heart disease is that situations experienced while driving may lead to a faster heart rate and fluctuation in blood pressure, which could trigger angina or even infarction.

2.1.3 Evidence of crash risk

Evidence suggests that people who have severe and even fatal heart attacks while driving may have sufficient warning to slow down or stop before losing consciousness, since less than half of such attacks result in property damage and injury. However, sometimes no warning occurs or a warning sign is misinterpreted or ignored, and this may result in severe injury or death to the driver and other road users. The quality of available evidence is variable and there are a number of sources of potential bias, thus drawing clear conclusions is not possible (refer to Part A section 1.5 Development and evidence base).[1]

2.2 General assessment and management guidelines

2.2.1 Non-driving periods

A number of cardiovascular incidents and procedures affect short-term driving capacity as well as long-term licensing status, for example, acute myocardial infarction and cardiac surgery. Such situations present an obvious driving risk that cannot be addressed by the licensing process in the short term. The person should be advised not to drive for the appropriate period, as shown in Table 5. The variation in non-driving periods reflects the varying effects of these conditions and is based on expert opinion. These non-driving periods are minimum advisory periods only and are not enforceable by the licensing process. The recommendations regarding long-term licence status (including conditional licences) should be considered once the condition has stabilised and driving capacity can be assessed as per the licensing standards outlined in this chapter.

2.2.2 Ischaemic heart disease

In individuals with ischaemic heart disease, the severity rather than the mere presence of ischaemic heart disease should be the primary consideration in assessing fitness to drive. The health professional should consider any symptoms of sufficient severity to be a risk while driving. Those who have had a previous myocardial infarction or similar event are at greater risk of recurrence than the normal population, thus cardiac history is an important consideration. An electrocardiogram (ECG) should be performed if clinically indicated.

Exercise testing. The Bruce protocol is recommended for formal exercise testing. Nomograms for assessing functional capacity are shown in Figure 7 and Figure 8.

Suspected angina pectoris. Where chest pains of uncertain origin are reported, every attempt should be made to reach a diagnosis. In the meantime, the person should be advised to restrict their driving until their licence status is determined, particularly in the case of commercial vehicle drivers. If the tests are positive or the person remains symptomatic and requires antianginal medication to control symptoms, the requirements listed for proven angina pectoris apply (refer to page 45).

Risk factors. Multiple risk factors interact in the development of ischaemic heart disease and stroke. These factors include age, sex, high blood pressure, smoking, total cholesterol:HDL ratio, diabetes, ECG changes, family history and sedentary lifestyle. The combined effect of these factors on risk of cardiovascular disease may be calculated using the Australian Cardiovascular Risk Charts (an electronic calculator is available at <www.cvdcheck.org.au>).

Routine screening for these risk factors is not required for licensing purposes, except where specified for certain commercial vehicle drivers as part of their additional accreditation or endorsement requirements. However, when a risk factor such as high blood pressure is being managed, it is good practice to assess other risk factors and to calculate overall risk. This risk assessment may be helpful additional information in determining fitness to drive, especially for commercial vehicle drivers (refer also to section 2.2.3 High blood pressure).

Table 5: Suggested non-driving periods post cardiovascular events or procedures

Event/procedure	Minimun non-driving period (advisory)	
	Private vehicle drivers	Commercial vehicle drivers
Ischaemic heart disease		
Acute myocardial infarction	2 weeks	4 weeks
Percutaneous coronary intervention, for example, for angioplasty	2 days	4 weeks
Coronary artery bypass grafts	4 weeks	3 months
Disorders of rate, rhythm and conduction		
Cardiac arrest	6 months	6 months
Implantable cardioverter defibrillator (ICD) insertion	6 months after cardiac arrest	Not applicable*
Generator change of an ICD	2 weeks	Not applicable*
ICD therapy associated with symptoms of haemodynamic compromise	4 weeks	Not applicable*
Cardiac pacemaker insertion	2 weeks	4 weeks
Vascular disease		
Aneurysm repair	4 weeks	3 months
Valvular replacement (including treatment with mitra clips and transcutaneous aortic valve replacement)	4 weeks	3 months
Other		
Deep vein thrombosis	2 weeks	2 weeks
Heart/lung transplant	6 weeks	3 months
Ventricular assist device (VAD)	3 months	Not applicable
Pulmonary embolism	6 weeks	6 weeks
Syncope (due to cardiovascular causes)	4 weeks	3 months

*Persons with ICD are not eligible to hold a commercial vehicle licence (refer to page 50).

2.2.3 High blood pressure

The cut-off blood pressure values at which a person is considered unfit to hold an unconditional licence do not reflect usual goals for managing hypertension. Rather, they reflect levels that are likely to be associated with sudden incapacity due to neurological events (e.g. stroke). The cut-off points are based on expert opinion.

It is a general requirement that conditional licences for commercial vehicle drivers are issued by the driver licensing authority based on the advice of an appropriate medical specialist and that these drivers are reviewed periodically by the specialist to determine their ongoing fitness to drive (refer to Part A section 4.4 Conditional licences). In the case of high blood pressure, ongoing fitness to drive may be assessed by the treating general practitioner, provided this is mutually agreed by the specialist and the general practitioner. The initial recommendation of a conditional licence must, however, be based on the opinion of the specialist.

2.2.4 Cardiac surgery (open chest)

Cardiac surgery may be performed for various reasons including valve replacement, excision of atrial myxoma and correction of septal defects. In some cases this is curative of the underlying disorder and so will not affect licence status for private or commercial vehicle drivers (refer also to Table 5). In other cases, the condition may not be stabilised, and the effect on driving safety and hence on licence status needs to be individually assessed. All cardiac surgery patients should be advised regarding safety of driving in the short term as for any other post-surgery patient (e.g. taking into account the limitation of chest and shoulder movements after sternotomy).

2.2.5 Disorders of rate, rhythm and conduction

Individuals with recurrent arrhythmias causing syncope or pre-syncope are usually not fit to drive. A conditional licence may be considered after appropriate treatment and an event-free non-driving period (refer to Table 5).

2.2.6 Implantable cardioverter defibrillators (ICD)

People with implantable cardioverter defibrillators (ICD) have a risk of sudden incapacity, which poses a crash risk. The risk is mainly a consequence of the underlying condition; however, there is also a risk of inappropriate discharge of the device (i.e. when there is no ventricular arrhythmia). This risk is considered unacceptable for commercial vehicle drivers, who are therefore ineligible for an unconditional licence or a conditional licence, whether the ICD is implanted for secondary or primary prevention. In exceptional cases, the driver licensing authority may consider the advice of an independent specialist in electrophysiology based on the nature of the driving task, the characteristics of the ICD and the nature of the underlying condition (refer to Part A, section 3.3.7 Role of independent experts/panels).

2.2.7 Aneurysms

Thoracic aortic aneurysms are largely asymptomatic until a sudden and catastrophic event occurs, such as rupture or dissection. Such events are rapidly fatal in a large proportion of patients. Risk varies with the type and size of aneurysm. The standard is set more stringently for atherosclerotic aneurysm or aneurysm associated with bicuspid aortic valve, compared to aneurysm associated with genetic aortopathy, including Marfan Loeys-Dietz, Turner and Ehlers-Danlos syndromes, and familial aortopathy.[2]

2.2.8 Long-term anticoagulant therapy

Long-term anticoagulant therapy may be used to lessen the risk of emboli in disorders of cardiac rhythm, following valve replacement, for deep venous thrombosis, and other similar conditions. If not adequately controlled, there is a risk of bleeding that, in the case of an intracranial bleed, may acutely affect driving. People on private vehicle licences may drive without licence restriction and without reporting to the driver licensing authority if the treating doctor considers anticoagulation is maintained at the appropriate level for the underlying condition. Commercial vehicle drivers do not meet the requirements for an unconditional licence and may drive only with a conditional licence.

2.2.9 Deep vein thrombosis (DVT) and pulmonary embolism (PE)

While deep vein thrombosis may lead to an acute pulmonary embolus, there is little evidence that such an event causes crashes. Therefore, no standard applies for either DVT or PE, although non-driving periods are advised (refer to Table 5). If long-term anticoagulation treatment is prescribed, the standard for anticoagulant therapy should be applied (refer to section 2.2.8 Long-term anticoagulant therapy).

2.2.10 Syncope

If an episode of syncope is vasovagal in nature with a clear-cut precipitating factor (such as venesection), and the situation is unlikely to occur while driving, the person may generally resume driving within 24 hours. With syncope due to other cardiovascular causes, an appropriate non-driving period should be advised (at least four weeks for private vehicle drivers and at least three months for commercial vehicle drivers), after which time their ongoing fitness to drive should be assessed (refer to page 64). In cases where it is not possible to determine an episode of loss of consciousness is due to syncope or some other cause, refer to section 1.2.4 Blackouts of undetermined mechanism.

2.2.11 Ventricular assist devices (VAD)

A ventricular assist device (VAD) is an electromechanical circulatory device that is used to partially or completely replace the function of a failing heart. Some VADs are intended for short-term use, typically for patients recovering from heart attacks or heart surgery. Others are intended for long-term use (months to years and in some cases for life), typically for heart failure. VADs are designed to assist either the right (RVAD) or left (LVAD) ventricle, or both at once (BiVAD). They carry a small risk of stroke or device failure.

The driver licensing authority may consider a conditional licence for a private driver with a LVAD, but not for commercial drivers. Combined LVAD/RVAD and total artificial hearts are not acceptable for either private or commercial vehicle drivers. RVAD are generally not used for ambulatory patients.

As part of ongoing recovery, patients should undergo a rehabilitation program to ensure confidence in using the equipment.

Persons with very severe heart failure may have persisting cognitive or neurological impairment and warrant a practical driving assessment (refer to Part A section 2.3.1 Practical driver assessments).

Figure 7: Bruce protocol nomogram for men

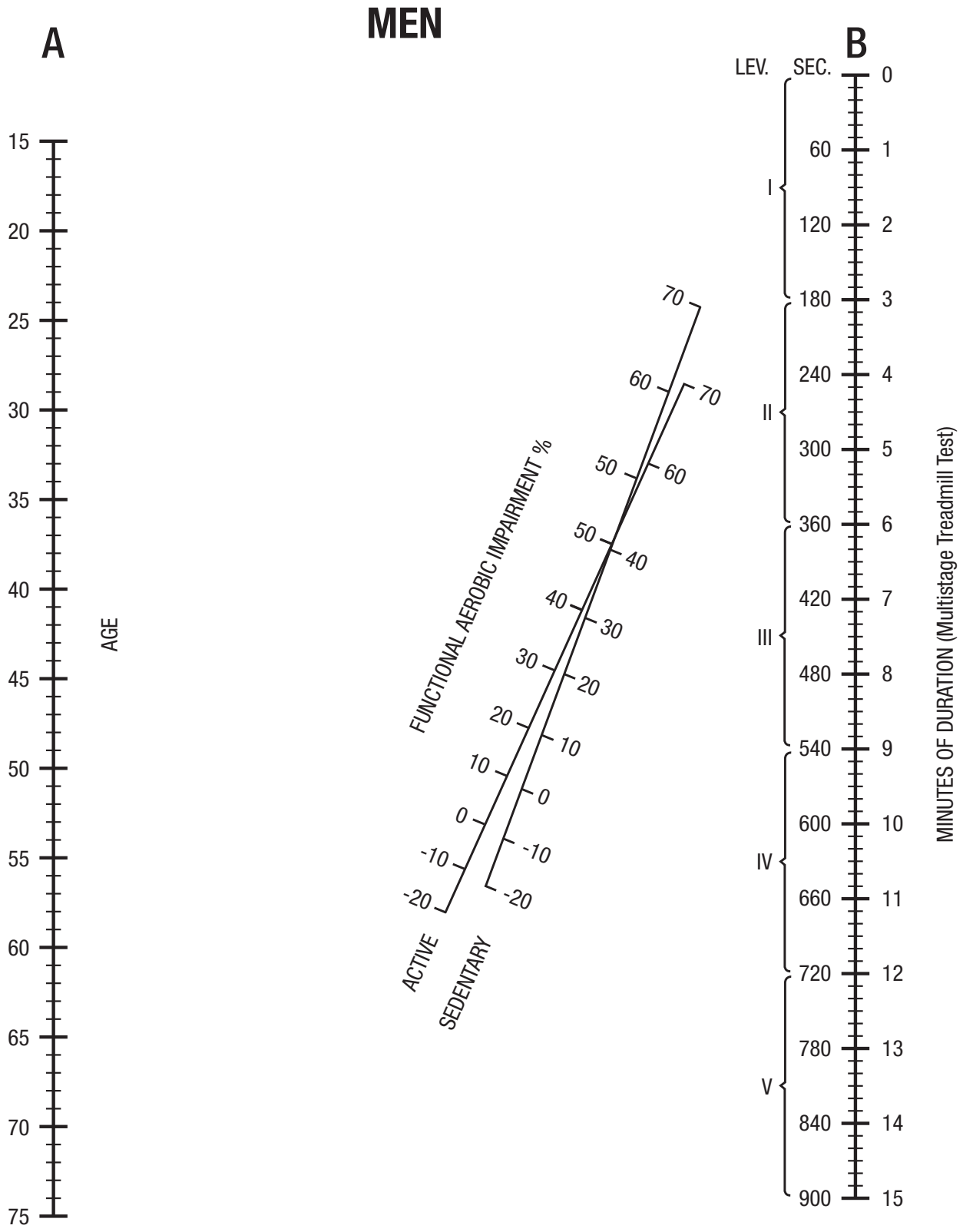
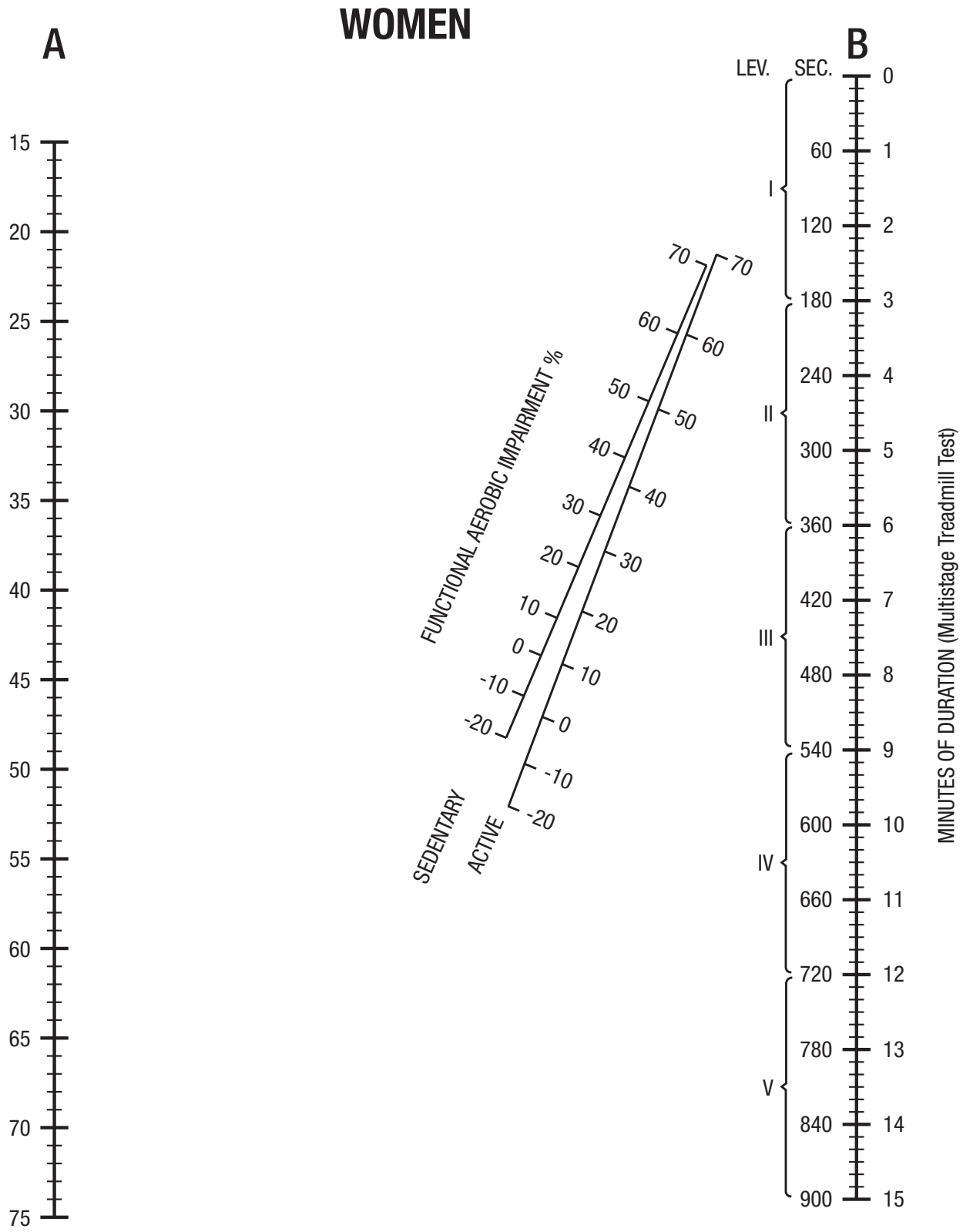


Figure 8: Bruce protocol nomogram for women



2.3 Medical standards for licensing

2.3.1 Medical criteria

Requirements for driver licensing are included in the tables on pages 45 to 57 for the following conditions:

- **ischaemic heart disease**
  - acute myocardial infarction (AMI)
  - angina
  - coronary artery bypass grafting (CABG)
  - percutaneous coronary intervention (PCI)
- **disorders of rate, rhythm and conduction**
  - arrhythmia
  - cardiac arrest
  - cardiac pacemaker
  - implantable cardioverter defibrillator (ICD)
  - ECG changes
- **vascular disease**
  - aneurysms, abdominal and thoracic
  - deep vein thrombosis (DVT)
  - pulmonary embolism (PE)
  - valvular heart disease
- **myocardial diseases**
  - dilated cardiomyopathy
  - hypertrophic cardiomyopathy (HCM)
- **other conditions and treatments**
  - anticoagulant therapy
  - congenital disorders
  - heart failure
  - heart transplant
  - hypertension
  - stroke
  - syncope.

2.3.2 Conditional licences and periodic review

Because many cardiac conditions are stabilised and not cured, periodic review is recommended. In general the review interval should not exceed 12 months.

Where a condition has been effectively treated and there is minimal risk of recurrence, the driver may apply for reinstatement of an unconditional licence on the advice of the treating doctor or specialist (in the case of a commercial vehicle driver). Refer to Part A, section 4.5 Reinstatement of licences or removal of licence conditions.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Ischaemic heart disease		
Acute myocardial infarction (AMI) *Refer also to coronary artery bypass grafting (CABG), page 47.* *Refer also to percutaneous coronary intervention (PCI), page 47.*	**The person should not drive for at least two weeks after an AMI.** A person is **not** fit to hold an **unconditional licence:** • if the person has had an AMI. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • it is at least **two weeks** after an uncomplicated AMI; **and** • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness). Fitness thereafter should be assessed in terms of general convalescence.	**The person should not drive for at least four weeks after an AMI.** A person is **not** fit to hold an **unconditional licence**: • if the person has had an AMI. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • it is at least **four weeks** after an uncomplicated AMI; **and** • there is a satisfactory response to treatment; **and** • 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; **and** • there is no evidence of severe ischaemia – that is, less than 2 mm ST segment depression on an exercise ECG or a reversible regional wall abnormality on an exercise stress echocardiogram or, absence of a large defect on a stress perfusion scan; **and** • there is an ejection fraction of 40% or over; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).
Angina	A person with angina, which is usually absent on mild exertion, and who is compliant with treatment may drive without licence restriction and without notification to the driver licensing authority, subject to periodic monitoring. A person is **not** fit to hold an **unconditional licence**: • if the person is subject to angina pectoris at rest or on minimal exertion despite medical therapy, or has unstable angina. (continued overleaf)	A person is **not** fit to hold an **unconditional licence**: • if the person is subject to angina pectoris. (continued overleaf)

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Ischaemic heart disease (cont'd)		
Angina (cont'd)	A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).	A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • 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). **Myocardial ischaemia** If myocardial ischaemia is demonstrated, a coronary angiogram may be offered. A **conditional licence** may be considered, subject to **annual review**, if the following criterion is met: • the coronary angiogram (invasive or CT) shows lumen diameter reduction of less than 70% in a major coronary branch, and less than 50% in the left main coronary artery. If the result of the angiogram shows a lumen diameter reduction of equal to or greater than 70% in a major coronary branch and less than 50% in the left main coronary artery (or if an angiogram is not conducted), a **conditional licence** may be considered, subject to **annual review**, if the following criteria are met: - 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; **and** - there is no evidence of severe ischaemia – that is, less than 2 mm ST segment depression on an exercise ECG or a reversible regional wall abnormality on an exercise stress echocardiogram or, absence of a large defect on a stress perfusion scan; **and** - there is an ejection fraction of 40% or over; **and** - there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness). The above criteria also apply if an angiogram is not conducted. Where surgery or PCI is undertaken to relieve the angina, the requirements listed in the table on page 47 apply.

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Ischaemic heart disease (cont'd)		
Coronary artery bypass grafting (CABG)	**The person should not drive for at least four weeks after CABG.** A person is **not** fit to hold an **unconditional licence**: • if the person requires or has had CABG. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • it is at least **four weeks** after CABG; **and** • there is satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** • there is minimal residual musculoskeletal pain after the chest surgery.	**The person should not drive for at least three months after CABG.** A person is **not** fit to hold an **unconditional licence**: • if the person requires or has had CABG. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • it is at least **three months** after CABG; **and** • there is a satisfactory response to treatment; **and** • 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; **and** • there is no evidence of severe ischaemia – that is, less than 2 mm ST segment depression on an exercise ECG or, a reversible regional wall abnormality on an exercise stress echocardiogram or, absence of a large defect on a stress perfusion scan; **and** • there is an ejection fraction of 40% or over; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** • there is minimal residual musculoskeletal pain after the chest surgery.
Percutaneous coronary intervention (PCI) (e.g. angioplasty)	**The person should not drive for at least two days after the PCI.** A person is **not** fit to hold an **unconditional licence**: • if the person requires or has had a PCI. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • there was no AMI immediately before or after the PCI; **and** • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).	**The person should not drive for at least four weeks after the PCI.** A person is **not** fit to hold an **unconditional licence**: • if the person requires or has had a PCI. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • it is at least **four weeks** after the PCI; **and** • there is a satisfactory response to treatment; **and** • 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; **and** (continued overleaf)

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Ischaemic heart disease (cont'd)		
Percutaneous coronary intervention (PCI) (cont'd)		• there is no evidence of severe ischaemia – that is, less than 2 mm ST segment depression on an exercise ECG or a reversible regional wall abnormality on an exercise stress echocardiogram or absence of a large defect on a stress perfusion scan; **and** • there is an ejection fraction of 40% or over; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).
Disorders of rate, rhythm and conduction		
Atrial fibrillation	**The non-driving period will depend on the method of treatment – see below.** A person is **not** fit to hold an **unconditional licence**: • if an episode of fibrillation results in syncope or incapacitating symptoms. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness). The person should not drive for: • at least **one week** following percutaneous intervention; • at least **one week** following initiation of successful medical treatment; • an appropriate time following open chest surgery. * Where the condition is considered to be cured, the requirement for periodic review may be waived.	**The non-driving period will depend on the method of treatment – see below.** A person is **not** fit to hold an **unconditional licence**: • if the person has a history of recurrent or persistent arrhythmia that may result in syncope or incapacitating symptoms. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** • appropriate follow-up has been arranged. The person should not drive for: • at least **four weeks** following percutaneous intervention; • at least **four weeks** following initiation of successful medical treatment; • at least **three months** following open chest surgery. If the person is taking anticoagulants refer to anticoagulant therapy on page 53. * Where the condition is considered to be cured, the requirement for periodic review may be waived.

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Disorders of rate, rhythm and conduction (cont'd)		
Paroxysmal arrhythmias (e.g. supraventricular tachycardia (SVT) atrial flutter, idiopathic ventricular tachycardia)	A person is **not** fit to hold an **unconditional licence**: • if there was near or definite collapse. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review,*** taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • there is a satisfactory response to treatment; **and** • there are normal haemodynamic responses at a moderate level of exercise; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness). * Where the condition is considered to be cured, the requirement for periodic review may be waived.	**The non-driving period is at least four weeks.** A person is **not** fit to hold an **unconditional licence**: • if there was near or definite collapse. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review,*** taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • there is a satisfactory response to treatment; **and** • there are normal haemodynamic responses at a moderate level of exercise; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness). The person should not drive: • for at least **four weeks** following percutaneous intervention: • for at least **four weeks** following initiation of successful medical treatment. * Where the condition is considered to be cured, the requirement for periodic review may be waived.
Cardiac arrest	**The person should not drive for at least six months following a cardiac arrest.** **Limited exceptions apply – see below.*** A person is **not** fit to hold an **unconditional licence**: • if the person has suffered a cardiac arrest. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • it is at least **six months** after the arrest; **and** • the cause of the cardiac arrest and response to treatment has been considered; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness). * A shorter non-driving period than six months may be considered subject to specialist assessment if the cardiac arrest has occurred within 48 hours of an acute myocardial infarction, or if the arrhythmia causing the cardiac arrest has been addressed by a radio frequency ablation surgery or by pacemaker implantation.	**The person should not drive for at least six months following a cardiac arrest.** A person is **not** fit to hold an **unconditional licence**: • if the person has suffered a cardiac arrest. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • it is at least **six months** after the arrest; **and** • a reversible cause is identified and recurrence is unlikely; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Disorders of rate, rhythm and conduction (cont'd)		
Cardiac pacemaker ***Refer also to Implantable cardioverter defibrillator (ICD) below if appropriate***	**The person should not drive for at least two weeks after insertion of a pacemaker.** A person is **not** fit to hold an **unconditional licence**: • if a cardiac pacemaker is required or has been implanted or replaced. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • it is at least **two weeks** after insertion of the cardiac pacemaker; **and** • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).	**The person should not drive for at least four weeks after insertion of a pacemaker.** A person is **not** fit to hold an **unconditional licence**: • if a cardiac pacemaker is required or has been implanted or replaced. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • it is at least **four weeks** after insertion of the cardiac pacemaker; **and** • the relative risks of pacemaker dysfunction have been considered; **and** • there are normal haemodynamic responses at a moderate level of exercise; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).
Implantable cardioverter defibrillator (ICD)	**The non-driving period will depend on the reason for ICD implantation – see below.** A person is **not** fit to hold an **unconditional licence**: • if the person requires or has had an ICD implanted for ventricular arrhythmias. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • the ICD has been implanted for an episode of cardiac arrest and the person has been asymptomatic for **six months**; **or** • the ICD has been prophylactically implanted for at least **two weeks**; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness). A person should not drive: • for **two weeks** after a generator change of an ICD; • for at least **four weeks** after appropriate ICD therapy associated with symptoms of haemodynamic compromise (if syncopal, refer to syncope, page 56).	A person is **not** fit to hold an **unconditional licence** or a **conditional licence**: • if the person requires or has had an ICD implanted for ventricular arrhythmias, including those implanted for prophylaxis.

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Disorders of rate, rhythm and conduction (cont'd)		
ECG changes: ***Strain patterns, bundle branch blocks, heart block, etc.*** ***Refer also to Cardiac pacemaker, page 50.***	**The person should not drive for at least two weeks following initiation of treatment.** A person is **not** fit to hold an **unconditional licence**: • if the conduction defect is causing symptoms. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • the condition has been treated procedurally or medically for at least **two weeks**; **and** • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness). * Where the condition is considered to be cured, the requirement for periodic review may be waived.	**The person should not drive for at least three months following initiation of treatment.** A person is **not** fit to hold an **unconditional licence**: • if the person has an electrocardiographic abnormality, for example, left bundle branch block, right bundle branch block, pre-excitation, prolonged QT interval or changes suggestive of myocardial ischaemia or previous myocardial infarction. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • all of the following: - the condition has been treated procedurally or medically for at least **three months**; **and** - there is a satisfactory response to treatment; **and** - there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **or** • follow-up investigation has excluded underlying cardiac disease. * Where the condition is considered to be cured, the requirement for periodic review may he waived.
Vascular disease		
Aneurysms – abdominal and thoracic	**The person should not drive for at least four weeks post repair.** A person is **not** fit to hold an **unconditional licence**: • if the person has an unrepaired aortic aneurysm, thoracic or abdominal. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • the aneurysm (repaired or unrepaired) is less than 50 mm for aneurysm associated with genetic aortopathy; **or** • the aneurysm (repaired or unrepaired) is less than 55 mm for atherosclerotic aneurysm or aneurysm associated with the bicuspid aortic valve; **and** • in the case of repaired aneurysm, it is at least **four weeks** after repair.	**The person should not drive for at least three months post repair.** A person is **not** fit to hold an **unconditional licence**: • if the person has an unrepaired aortic aneurysm, thoracic or abdominal. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • the aneurysm (repaired or unrepaired) is less than 50mm for aneurysm associated with genetic aortopathy; **or** • the aneurysm (repaired or unrepaired) is less than 55mm for atherosclerotic aneurysm or aneurysm associated with the bicuspid aortic valve; **and** • in the case of repaired aneurysm, it is at least **three months** after repair.

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Vascular disease (cont'd)		
Deep vein thrombosis (DVT)	There are no licensing criteria for DVT. For advisory non-driving period following DVT refer to Table 5, page 40. For long-term anticoagulation refer to page 53. Refer also to section 2.2.8 in text.	There are no licensing criteria for DVT. For advisory non-driving period following DVT refer to Table 5, page 40. For long-term anticoagulation refer to page 53. Refer also to section 2.2.8 in text.
Pulmonary embolism (PE)	There are no licensing criteria for PE. For advisory non-driving period following PE refer to Table 5, page 40. For long-term anticoagulation refer to page 53. Refer also to section 2.2.8 in text.	There are no licensing criteria for PE. For advisory non-driving period following PE refer to Table 5, page 40. For long-term anticoagulation refer to page 53. Refer also to section 2.2.8 in text.
Valvular heart disease (including treatment with Mitra Clips and Transcutaneous Aortic Valve Replacement)	**The person should not drive for at least four weeks following valve repair.** A person is **not** fit to hold an **unconditional licence**: • if the person has symptoms on moderate exertion. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** • there is minimal residual musculoskeletal pain after chest surgery, if required.	**The person should not drive for at least four weeks following valve repair.** A person is **not** fit to hold an **unconditional licence**: • if the person has any history or evidence of valve disease, with or without surgical repair or replacement, associated with symptoms or a history of embolism, arrhythmia, cardiac enlargement, abnormal ECG or high blood pressure; **or** • if the person is taking anticoagulants (a conditional licence may be issued subject to the requirements specified on page 53 in relation to anticoagulant therapy). A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • the person's cardiological assessment shows valvular disease of no haemodynamic significance; **or** • all of the following: – it is **three months** following surgery and there is no evidence of valvular dysfunction; **and** – there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** – there is minimal residual musculoskeletal pain after chest surgery.

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Myocardial diseases		
Dilated cardiomyopathy	A person is **not** fit to hold an **unconditional licence**: • if the person has a dilated cardiomyopathy. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** • the person is not subject to arrhythmias. Cardiologist assessment is recommended for complex presentations.	A person is **not** fit to hold and **unconditional licence**: • if the person has a dilated cardiomyopathy. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • there is an ejection fraction of 40% or over; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** • the person is not subject to arrhythmias.
Hypertrophic cardiomyopathy (HCM)	A person is **not** fit to hold an **unconditional licence**: • if the person has HCM. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** • the person is not subject to arrhythmias or syncope.	A person is **not** fit to hold an **unconditional licence**: • if the person has HCM. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • the left ventricular ejection fraction is 40% or over; **and** • there is an exercise toleranc equal to or greater than 90% of the age/sex predicted exercise capacity according to the Bruce protocol or equivalent functional exercise test protocol; **and** • there is an absence of: a history of syncope; severe LV hypertrophy; a family history of sudden death; or ventricular arrhythmia on Holter testing; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).
Other cardiovascular diseases		
Anticoagulant therapy	A person on a private vehicle licence may drive without restriction and without reporting to the driver licensing authority, pending periodic review if: • anticoagulation is maintained at the appropriate degree for the underlying condition.	A person is **not** fit to hold an **unconditional licence**: • if the person is on long-term anticoagulant therapy. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criterion is met: • anticoagulation is maintained at the appropriate degree for the underlying condition.

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Other cardiovascular diseases (cont'd)		
Congenital disorders	A person is **not** fit to hold an **unconditional licence**: • if the person has a complicated congenital heart disorder. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criterion is met: • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).	A person is **not** fit to hold an **unconditional licence**: • if the person has a complicated congenital heart disorder. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • there is a minor congenital heart disorder of no haemodynamic significance such as pulmonary stenosis, atrial septal defect, small ventricular septal defect, bicuspid aortic valve, patent ductus arteriosus or mild coarctation of the aorta; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).
Heart failure **(refer also to ventricular assist devices (VAD) below)**	A person is **not** fit to hold an **unconditional licence**: • if symptoms arise on moderate exertion. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).	A person is **not** fit to hold an **unconditional licence**: • if the person has heart failure. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • there is a satisfactory response to treatment; **and** • 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; **and** • there is an ejection fraction of 40% or over; **and** • the underlying cause of the heart failure is considered; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Other cardiovascular diseases (cont'd)		
Ventricular assist devices (VAD)	**A person should not drive for at least 3 months following insertion of a ventricular assist device.** A person is **not** fit to hold an **unconditional licence** • if the person requires a VAD. In the case of a left ventricular assist device (LVAD), a **conditional licence** may be considered by the driver licensing authority subject to **six-monthly review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • the device has been in situ for at least **three months** and there have been no equipment problems during the preceding two weeks; **and** • anticoagulation is stable as per this standard; **and** • the medical condition is stable and satisfactorily controlled, and there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness); **and** • the person is confident in relation to all LVAD equipment. Where there is concern of cognitive or neurological impairment, a practical driver assessment should be conducted (refer to Part A section 2.3.1 Practical driver assessments). A person is **not** fit to hold an **unconditional licence** or a **conditional licence**: • if the person requires a combined LVAD/RVAD or an artificial heart.	A person is **not** fit to hold an **unconditional licence** or a **conditional licence**: • if the person requires a VAD of any type or an artificial heart.
Heart transplant	**The person should not drive for at least six weeks post-transplant.** A person is **not** fit to hold an **unconditional licence**: • if the person requires or has had a heart or heart/lung transplant. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • it is at least **six weeks** after transplant; **and** • there is a satisfactory response to treatment; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).	**The person should not drive for at least three months post-transplant.** A person is **not** fit to hold an **unconditional licence**: • if the person requires or has had a heart or heart/lung transplant. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • it is at least **three months** after transplant; **and** • there is a satisfactory response to treatment; **and** (continued overleaf)

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Other cardiovascular diseases (cont'd)		
Heart transplant (cont'd)		• 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; **and** • there are minimal symptoms relevant to driving (chest pain, palpitations, breathlessness).
Hypertension	A person is **not** fit to hold an **unconditional licence**: • if the person has blood pressure consistently greater than 200 systolic or greater than 110 diastolic (treated or untreated). A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • the blood pressure is well controlled; **and** • there are no side effects from the medication that will impair safe driving; **and** • there is no evidence of damage to target organs relevant to driving.	A person is **not** fit to hold an **unconditional licence**: • if the person has blood pressure consistently greater than 170 systolic or greater than 100 diastolic (treated or untreated). A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist*** as to whether the following criteria are met: • the person is treated with antihypertensive therapy and effective control of hypertension is achieved over a four-week follow-up period; **and** • there are no side effects from the medication that will impair safe driving; **and** • there is no evidence of damage to target organs relevant to driving. * Ongoing fitness to drive for commercial vehicle drivers may be assessed by the treating general practitioner provided this is mutually agreed by the specialist, general practitioner and driver licensing authority. The initial granting of a conditional licence must, however, be based on information provided by the specialist.
Stroke	Refer to section 6 Neurological conditions.	Refer to section 6 Neurological conditions.
Syncope *Refer also to section 1 Blackouts.*	**The person could resume driving within 24 hours if the episode was vasovagal in nature with a clear-cut precipitating factor (such as venesection) and the situation is unlikely to occur while driving. The driver licensing authority should not be notified.** The person should not drive for at least **four weeks** after syncope due to other cardiovascular causes. A person is **not** fit to hold an **unconditional licence**: • if the condition is severe enough to cause episodes of loss of consciousness without warning. (continued overleaf)	**The person could resume driving within 24 hours if the episode was vasovagal in nature with a clear-cut precipitating factor (such as venesection) and the situation is unlikely to occur while driving. The driver licensing authority should not be notified.** The person should not drive for at least **three months** after syncope due to other cardiovascular causes. A person is **not** fit to hold an **unconditional licence**: • if the condition is severe enough to cause episodes of loss of consciousness without warning. (continued overleaf)

Medical standards for licensing – Cardiovascular conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Other cardiovascular diseases (cont'd)		
Syncope (cont'd) *Refer also to section* 1 Blackouts	A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • the underlying cause has been identified; **and** • satisfactory treatment has been instituted; **and** • the person has been symptom-free for at least **four weeks**.	A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating specialist** as to whether the following criteria are met: • the underlying cause has been identified; **and** • satisfactory treatment has been instituted; **and** • the person has been symptom-free for **three months**.

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

References and further reading

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6. Slaughter MS, Rogers JG, Milano CA, Russell SD, Conte JV, Feldman D, Sun B, Tatooles AJ, Delgado RM, Long JW, Wozniak TC, Ghumman W, Farrar DJ, Frazier OH. Advanced heart failure treated with continuous-flow left ventricular assist device. New England Journal of Medicine. 2009; 361: 2241–2251.

3. Diabetes mellitus

Refer also to section 2 Cardiovascular conditions, section 8 Sleep disorders and section 10 Vision and eye disorders.

3.1 Relevance to the driving task

3.1.1 Effects of diabetes on driving

Diabetes may affect a person's ability to drive, either through a 'severe hypoglycaemic event' or from end-organ effects on relevant functions, including effects on vision, the heart and the peripheral nerves and vasculature of the extremities, particularly the feet. In people with type 2 diabetes, sleep apnoea is also more common (refer to section 8 Sleep disorders). The main hazard in people with insulin-treated diabetes is the unexpected occurrence of hypoglycaemia.

3.1.2 Evidence of crash risk

There is little concurrence among the findings of studies on diabetes and crash risk, largely due to the methodological problems that arise in these studies (refer to Part A section 1.5 Development and evidence base). The potential effects of hypoglycaemia are of most concern to road safety, but this has been addressed in few studies.[1] However, findings point to a higher risk among those with a history of severe hypoglycaemia.[2] There is also evidence that 'tighter control', as measured by the HbA1c, may be associated with increased crash risk.[3]

3.2 General assessment and management guidelines

General management of diabetes in relation to fitness to drive is summarised in Figure 10. Note, for the purpose of the diabetes standard, appropriate specialist means an endocrinologist or consultant physician specialising in diabetes. For general guidance on diabetes management refer to relevant best practice guidelines (e.g. Royal Australasian College of General Practitioners' *General practice management of type 2 diabetes 2014–15*[7] National Health and Medical Research Council *National evidence based clinical care guidelines for type 1 diabetes for children, adolescents and adults*[8]).

3.2.1 Hypoglycaemia

Definition: severe hypoglycaemic event

For the purposes of this document, a 'severe hypoglycaemic event' is defined as an event of hypoglycaemia of sufficient severity such that the person is unable to treat the hypoglycaemia themselves and thus requires an outside party to administer treatment. It includes hypoglycaemia causing loss of consciousness or seizure. It can occur during driving or at any other time of the day or night. A severe hypoglycaemic event is particularly relevant to driving because it affects brain function and may cause impairment of perception, motor skills or consciousness. It may also cause abnormal behaviour. A severe hypoglycaemic event is to be distinguished from mild hypoglycaemic events, the latter with symptoms such as sweating, tremulousness, hunger and tingling around the mouth, which are common occurrences in the life of a person with diabetes treated with insulin and some hypoglycaemic agents.

Potential causes

Hypoglycaemia may be caused by many factors including non-adherence or alteration to medication, unexpected exertion, alcohol intake, or irregular meals. Meal regularity and variability in medication administration may be important considerations for long-distance commercial driving or for drivers operating on shifts. Impairment of consciousness and judgement can develop rapidly and result in loss of control of a vehicle. Excessively tight control may contribute to hypoglycaemia.[3]

Advice to drivers

The driver should be advised not to drive if a severe hypoglycaemic event is experienced while driving or at any other time, until they have been cleared to drive by the appropriate medical practitioner. The driver should also be advised to take appropriate precautionary steps to help avoid a severe hypoglycaemic event, for example, by:

- complying with general medical review requirements as requested by their general practitioner or specialist
- not driving if their blood glucose is at or less than 5 mmol/L
- not driving for more than two hours without considering having a snack
- not delaying or missing a main meal
- self-monitoring blood glucose levels before driving and every two hours during a journey, as reasonably practical
- carrying adequate glucose in the vehicle for self-treatment
- treating mild hypoglycaemia if symptoms occur while driving including

- safely steering the vehicle to the side of the road
- turning off the engine and removing the keys from the ignition
- self-treating the low blood glucose
- checking the blood glucose levels 15 minutes or more after the hypoglycaemia has been treated and ensuring it is above 5 mmol/L (see Patient information on page 66)
- not recommencing driving until feeling well and until at least 30 minutes after the blood glucose is above 5 mmol/L.

Non-driving period after a 'severe hypoglycaemic event'

If a severe hypoglycaemic event occurs (as defined in section 3.2.1 Hypoglycaemia), the person should not drive for a significant period of time and will need to be urgently assessed. The minimum period of time before returning to drive is generally **six weeks** because it often takes many weeks for patterns of glucose control and behaviour to be re-established and for any temporary 'reduced awareness of hypoglycaemia' to resolve (see below). The non-driving period will depend on factors such as identifying the reason for the episode, the specialist's opinion and the type of motor vehicle licence. The specialist's recommendation for return to driving should be based on patient behaviour and objective measures of glycaemic control (documented blood glucose) over a reasonable time interval.

Reduced awareness of hypoglycaemia

Reduced awareness of hypoglycaemia exists when a person does not regularly sense the usual early warning symptoms of mild hypoglycaemia such as sweating, tremulousness, hunger, tingling around the mouth, palpitations and headache. It markedly increases the risk of a severe hypoglycaemic event occurring and is therefore a risk for road safety.[4] It may be screened for using the Clarke questionnaire (Figure 9), which may be particularly useful for people with insulin-treated diabetes of longer duration (more than 10 years), or following a severe hypoglycaemic event or after a crash.[5,6]

When reduced awareness of hypoglycaemia awareness develops in a person who has experienced a severe hypoglycaemic event, it may improve in the subsequent weeks and months if further hypoglycaemia can be avoided.

A person with persistent reduced awareness of hypoglycaemia should be under the regular care of a medical practitioner with expert knowledge in managing diabetes (e.g. an endocrinologist or diabetes specialist), who should be involved in assessing their fitness to drive. As reflected in the standards table on page 64, any driver who has a persistent reduced awareness of hypoglycaemia is generally not fit to drive unless their ability to experience early warning symptoms returns or they have an effective management strategy for lack of early warning symptoms. For private drivers, a conditional licence may be considered by the driver licensing authority, taking into account the opinion of an appropriate specialist, the nature and extent of the driving involved and the driver's self-care behaviours.

In managing reduced awareness of hypoglycaemia, the medical practitioner should focus on aspects of the person's self-care to minimise a severe hypoglycaemic event occurring while driving, including steps described above (Advice to drivers). In addition, self-care behaviours that help to minimise severe hypoglycaemic events in general should be a major ongoing focus of regular diabetes care. This requires attention by both the medical practitioner and the person with diabetes to diet and exercise approaches, insulin regimens and blood glucose testing protocols.

3.2.2 Acute hyperglycaemia

While acute hyperglycaemia may affect some aspects of brain function, there is insufficient evidence to determine regular effects on driving performance and related crash risk. Each person with diabetes should be counselled about management of their diabetes during days when they are unwell and should be advised not to drive if they are acutely unwell with metabolically unstable diabetes.

3.2.3 Comorbidities and end-organ complications

Assessment and management of comorbidities is an important aspect of managing people with diabetes with respect to their fitness to drive. This should be part of routine review as per recommended practice[7,8] and may include but is not limited to, the following:

- **Vision.** (Refer to section 10 Vision and eye disorders.) Visual acuity should be tested annually. Retinal screening should be undertaken every second year if there is no retinopathy, or more frequently if at high risk. Visual field testing is not required unless clinically indicated.[7,8]
- **Neuropathy and foot care.** While it can be difficult to be prescriptive about neuropathy in the context of driving, it is important that the severity of the condition is assessed. Adequate sensation and movement for the operation of foot controls is required (refer to section 6 Neurological conditions and section 5 Musculoskeletal conditions).
- **Sleep apnoea.** Sleep apnoea is a common comorbidity affecting many people with type 2 diabetes and has substantial implications for road safety. The treating health professional should be alert to potential signs (e.g. BMI greater than 35) and symptoms, and apply the Epworth Sleepiness Scale as appropriate (refer to section 8 Sleep disorders).
- **Cardiovascular**. There are no diabetes-specific medical standards for cardiovascular risk factors and driver licensing. Consistent with good medical practice, people with diabetes should have their cardiovascular risk factors periodically assessed and treated as required (refer to section 2 Cardiovascular conditions).

3.2.4 Gestational diabetes mellitus

The standards in this chapter apply to diabetes mellitus as a chronic condition. The self-limiting condition known as gestational diabetes mellitus (GDM) does not impact on licensing. However, consideration should be given to short-term fitness to drive in women with GDM treated with insulin, although severe hypoglycaemia in this condition is rare. Affected women should be counselled to recognise symptoms and to restrict driving when symptoms occur.

Figure 9: Clarke hypoglycaemia awareness survey[5]

The survey is useful to administer to assess hypoglycaemia awareness including:

- for people who have been on insulin for many years
- after a severe hypoglycaemic event
- after a crash.

Scoring

- Four or more 'R' responses implies reduced awareness.
- For Question 5 and 6, one 'R' response is given if the answer to question 5 is less than the answer to question 6.
- 'A' responses imply awareness
- 'U' response (12 or more severe hypoglycaemic episodes in the last 12 months) indicates unawareness.

1. Check the category that best describes you: (check one only)
   - ☐ I always have symptoms when my blood sugar is low (A).
   - ☐ I sometimes have symptoms when my blood sugar is low (R).
   - ☐ I no longer have symptoms when my blood sugar is low (R).
2. Have you lost some of the symptoms that used to occur when your blood sugar was low?
   - ☐ Yes (R)
   - ☐ No (A)
3. In the past six months how often have you had moderate hypoglycaemia episodes? (episodes where you might feel confused, disoriented or lethargic and were unable to treat yourself)
   - ☐ Never (A)
   - ☐ Once a month (R)
   - ☐ Once or twice (R)
   - ☐ More than once a month (R)
   - ☐ Every other month (R)
4. In the past year how often have you had severe hypoglycaemic episodes? (episodes where you were unconscious or had a seizure and needed glucagon or intravenous glucose)
   - ☐ Never (A)
   - ☐ 4 times (R)
   - ☐ 8 times (R)
   - ☐ 12 or more times (U)
   - ☐ 1 time (R)
   - ☐ 5 times (R)
   - ☐ 9 times (R)
   - ☐ 2 times (R)
   - ☐ 6 times (R)
   - ☐ 10 times (R)
   - ☐ 3 times (R)
   - ☐ 7 times (R)
   - ☐ 11 times (R)
5. How often in the last month have you had readings less than 3.8mmol/L with symptoms?
   - ☐ Never
   - ☐ 2 to 3 times/week
   - ☐ 1 to 3 times
   - ☐ 4 to 5 times/week
   - ☐ 1 time/week
   - ☐ Almost daily
6. How often in the last month have you had readings less than 3.8mmol/L without any symptoms?
   - ☐ Never
   - ☐ 2 to 3 times/week
   - ☐ 1 to 3 times
   - ☐ 4 to 5 times/week
   - ☐ 1 time/week
   - ☐ Almost daily

   (R = answer to 5 is less than answer to 6, A = answer to 6 is greater than answer to 5)
7. How low does your blood sugar need to go before you feel symptoms?
   - ☐ 3.3–3.8 mmol/L (A)
   - ☐ 2.2–2.7 mmol/L (R)
   - ☐ 2.7–3.3 mmol/L (A)
   - ☐ Less than 2.2 mmol/L (R)
8. To what extent can you tell by your symptoms that your blood sugar is low?
   - ☐ Never (R)
   - ☐ Often (A)
   - ☐ Rarely (R)
   - ☐ Always (A)
   - ☐ Sometimes (R)

Note: Units of measure have been converted from mg/dl to mmol/L as per <http://www.onlineconversion.com/blood_sugar.htm>.

3.3 Medical standards for licensing

Medical requirements for unconditional and conditional licences are outlined in the table on pages 64 and 65.

3.3.1 Diabetes treated by glucose-lowering agents other than insulin – private drivers

Private vehicle drivers treated by glucose-lowering agents other than insulin may generally drive without licence restriction (i.e. on an unconditional licence) but should be required by the driver licensing authority to have five-yearly reviews.

3.3.2 Recommendation and review of conditional licences for commercial vehicle drivers

It is a general requirement that conditional licences for commercial vehicle drivers are issued by the driver licensing authority based on advice from an appropriate medical specialist (endocrinologist / consultant physician specialising in diabetes) and that these drivers are reviewed periodically by the specialist to determine their ongoing fitness to drive (refer to Part A section 4.4 Conditional licences). For commercial drivers receiving insulin treatment, at least three months of blood glucose monitoring records should be reviewed in the process of assessing fitness to drive.

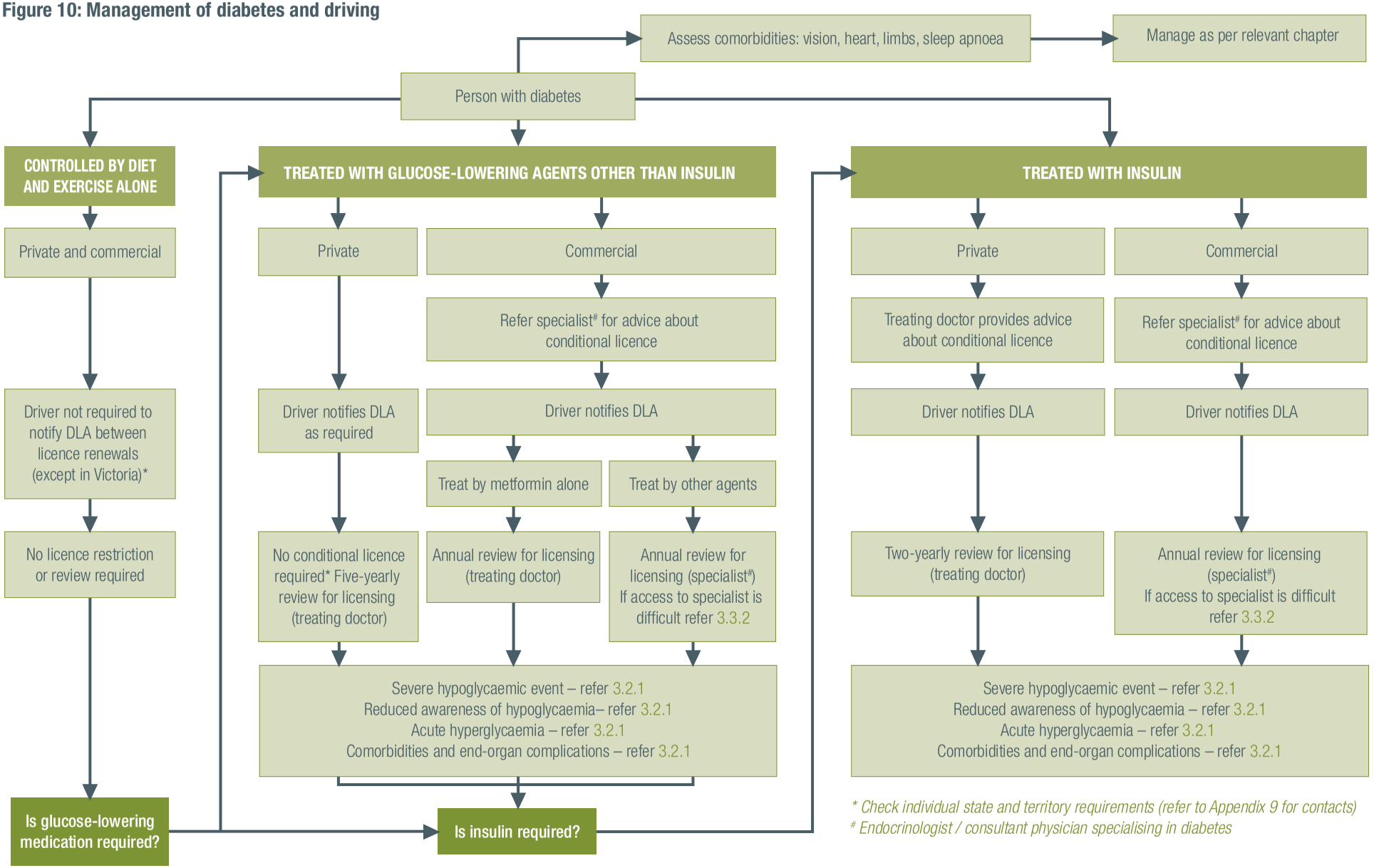
Commercial vehicle drivers treated by glucose-lowering agents other than insulin are required to have at least annual review by an appropriate specialist to monitor the progression of their condition. However, in the case of type 2 diabetes managed by metformin alone, ongoing fitness to drive may be assessed by the treating general practitioner by mutual agreement with the specialist. The initial recommendation of a conditional licence must be based on the opinion of an endocrinologist / consultant physician specialising in diabetes.

In areas where access to specialists may be difficult, the driver licensing authority may agree to a process in which:

- initial assessment and advice for the conditional licence is provided by a specialist (endocrinologist / consultant physician specialising in diabetes)
- ongoing periodic review for the conditional licence is provided by the treating general practitioner, with the cooperation of the specialist.

Where appropriate and available, the use of telemedicine technologies such as videoconferencing is encouraged as a means of facilitating access to specialist opinion (refer to Part A, Section 3.3.5).

Figure 10: Management of diabetes and driving



** Check individual state and territory requirements (refer to Appendix 9 for contacts)*
 # Endocrinologist / consultant physician specialising in diabetes

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Diabetes mellitus		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Diabetes controlled by diet and exercise alone	A person with diabetes treated by diet and exercise alone may drive without licence restriction. They should be reviewed by their treating doctor periodically regarding progression of diabetes.	A person with diabetes treated by diet and exercise alone may drive without licence restriction. They should be reviewed by their treating doctor periodically regarding progression of diabetes.
Diabetes treated by glucose-lowering agents other than insulin For definition and management of a '**severe hypoglycaemic event**' refer to section 3.2.1	A person is **not** fit to hold an **unconditional licence**: • if the person has end-organ complications that may affect driving, as per this publication; **or** • the person has had a recent 'severe hypoglycaemic event'. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into consideration the nature of the driving task, and information provided by the **treating doctor** on whether the following criteria are met: • any end-organ effects are satisfactorily treated, with reference to the standards in this publication; **and** • the person is following a treatment regimen that minimises the risk of hypoglycaemia; **and** • the person experiences early warning symptoms (awareness) of hypoglycaemia or has a documented management plan for lack of early warning symptoms; **and** • any recent 'severe hypoglycaemic event' has been satisfactorily treated, with reference to the standards in this publication (refer to section 3.2.1). For private drivers who do not meet the above criteria, a **conditional licence** may be considered by the driver licensing authority, taking into account the opinion of an **endocrinologist / consultant physician specialising in diabetes** and subject to regular specialist review.	A person is **not** fit to hold an **unconditional licence**: • if the person has non-insulin treated diabetes mellitus and is being treated with glucose-lowering agents other than insulin. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into consideration the nature of the driving task and information provided by an **endocrinologist / consultant physician specialising in diabetes*** on whether the following criteria are met: • there is no recent history of a 'severe hypoglycaemic event' as assessed by the specialist; **and** • the person experiences early warning symptoms (awareness) of hypoglycaemia; **and** • the person is following a treatment regimen that minimises the risk of hypoglycaemia; **and** • there is an absence of end-organ effects that may affect driving as per this publication. * For a commercial driver with type 2 diabetes who is being treated with metformin alone, the annual review for a conditional licence may be undertaken by the driver's treating doctor upon mutual agreement of the treating doctor, specialist and driver licensing authority. The initial granting of a conditional licence must, however, be based on information provided by the specialist.

Medical standards for licensing – Diabetes mellitus		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Insulin-treated diabetes (except gestational diabetes) For definition and management of a '**severe hypoglycaemic event**' refer to section 3.2.1	A person is **not** fit to hold an **unconditional licence**: • if the person has insulin-treated diabetes. A **conditional licence** may be considered by the driver licensing authority subject to at least **two-yearly review**, taking into consideration the nature of the driving task and information provided by the **treating doctor** on whether the following criteria are met: • there is no recent history of a 'severe hypoglycaemic event'; **and** • the person is following a treatment regimen that minimises the risk of hypoglycaemia; **and** • the person experiences early warning symptoms (awareness) of hypoglycaemia (refer to section 3.2.1) or has a documented management plan for lack of early warning symptoms; **and** • there are no end-organ effects that may affect driving as per this publication. For private drivers who do not meet the above criteria, a **conditional licence** may be considered by the driver licensing authority, taking into account the opinion of an **endocrinologist / consultant physician specialising in diabetes** and subject to regular specialist review.	A person is **not** fit to hold an **unconditional licence**: • if the person has insulin-treated diabetes. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into consideration the nature of the driving task and information provided by an **endocrinologist / consultant physician specialising in diabetes** on whether the following criteria are met: • there is no recent history (generally at least six weeks) of a 'severe hypoglycaemic event' as assessed by the specialist; **and** • the person is following a treatment regimen that minimises the risk of hypoglycaemia; **and** • the person experiences early warning symptoms (awareness) of hypoglycaemia (refer to section 3.2.1); **and** • there are no end-organ effects that may affect driving as per this publication.

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

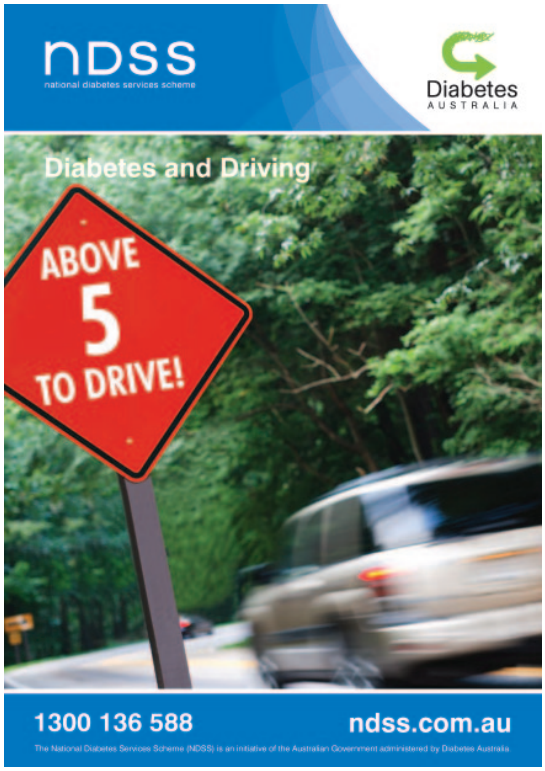
Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

Patient information

The **National Diabetes Services Scheme (NDSS)** is an initiative of the Australian Government administered by Diabetes Australia. The NDSS provides information and support services to people with diabetes, including information about driving. Refer to <www.ndss.com.au>.

The 'Above 5 to Drive' resources are also available through Diabetes Australia at <www.diabetesaustralia.com.au/driving>.



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4. Hearing loss and deafness

4.1 Relevance to the driving task

4.1.1 Effect of hearing loss on driving

The evidence base regarding hearing loss and driving safely is limited and inconclusive. It may be that a loss of hearing is well compensated for since most people who are hard of hearing are aware of their disability and therefore tend to be more cautious and to rely more on visual cues and other sensations such as vibrations.

4.1.2 Considerations for commercial vehicle drivers

While driving ability per se might not be affected by a hearing loss, responsiveness to critical events is an important safety consideration for drivers of commercial vehicles. These drivers therefore require the capacity to ensure safety and the capacity to respond to environmental situations that may involve sirens, rail crossings and emergency signals as well as conditions of the vehicle and roads.

4.2 General assessment and management guidelines

4.2.1 Commercial vehicle drivers

Only drivers of commercial vehicles are required to meet a hearing standard for the reasons outlined above. The following hearing assessment applies to all forms of hearing loss including congenital, childhood and hearing loss acquired in later years. The process is summarised in Figure 11.

- Compliance with the standard should be clinically assessed initially. If there is doubt about the person's hearing, audiometry should be arranged. The person should not undergo audiometry if their hearing is satisfactory.
- If on audiometry the person has unaided hearing loss greater than or equal to 40 dB in the better ear (averaged over the frequencies 0.5, 1, 2 and 3 KHz) they do not meet the criteria for an unconditional licence.
- If the standard is able to be met with a hearing aid, the driver licensing authority may consider a conditional licence, subject to periodic assessment of hearing and of the hearing aids at a frequency advised by the health professional. Stable conditions may not require periodic review.
- If the standard is not able to be met with a hearing aid, **this in itself does not disqualify the person from driving**. They should be offered individualised assessment to determine their eligibility for a conditional licence. This may comprise:
  - medical assessment by an ear, nose and throat (ENT) specialist or audiologist* including consideration of the following factors:
    - the person's medical history, for example, childhood deafness may have led to good adaptation
    - the person's driving record prior to and since the occurrence of hearing loss
    - the nature of the driving task, for example, type of vehicle (truck, bus, etc.), roads and distances to be travelled
    - the ergonomics of the driving cab, for example, assistive devices such as mirrors and a GPS
    - concomitant medical conditions such as vision impairment or cognitive impairment
  - practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessment). The report may advise on assistive technologies as a licence condition.

The driver licensing authority may consider a conditional licence based on the information received. Periodic review may include medical review and/or practical driver assessment at the discretion of the driver licensing authority. The health professional should advise on frequency of review as determined by the natural history of the condition. Stable conditions may not require periodic review.

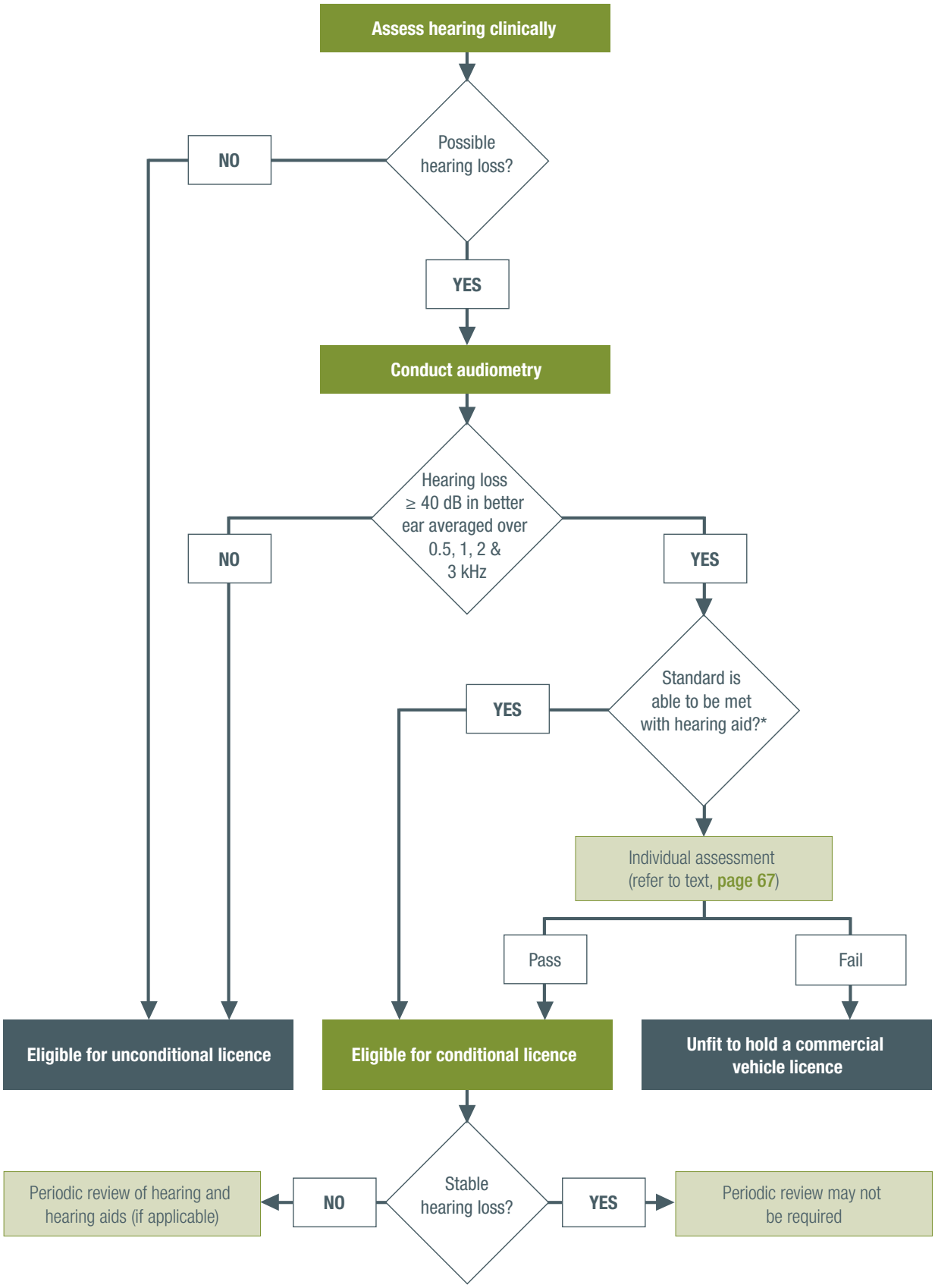
In some cases noise amplification as a result of wearing hearing aids may lead to driver distraction and may warrant individualised assessment as above to determine fitness to drive without the hearing aid.

4.2.2 Private vehicle drivers

While hearing loss will not preclude driving a private car, people with hearing loss should be advised regarding their loss and their limited ability to hear warning signals. Assistive technologies such as hearing aids, sensors and/or physical equipment such as additional mirrors might also be used upon consideration of the needs of the individual driver.

*For the purposes of this document an audiologist is a person registered with Audiology Australia (see <www.audiology.asn.au>).

Figure 11: Management of hearing loss in commercial vehicle drivers



* NOTE: In some cases noise amplification as a result of wearing hearing aids may lead to driver distraction and may warrant individualised assessment to determine fitness to drive without the hearing aid (refer to section 4.2.1).

4.3 Medical standards for licensing

Requirements for unconditional and conditional licences for commercial vehicle drivers are outlined in the table below.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Hearing		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Hearing loss	**There is no hearing standard for private vehicle drivers.** Refer to General assessment and management guidelines (page 67).	Compliance with the standard should be clinically assessed initially. If the initial clinical assessment indicates possible hearing loss, the person should be referred for audiometry. A person is **not** fit to hold an **unconditional licence**: • if the person has unaided hearing loss greater than or equal to 40 dB in the better ear (averaged over the frequencies 0.5, 1, 2 and 3 KHz). A **conditional licence** may be considered by the driver licensing authority subject to **periodic review,*** taking into account the nature of the driving task and information provided by an **ear nose and throat specialist or audiologist**** as to whether: • the standard is able to be met with a hearing aid.*** If the standard is **not** able to be met with a hearing aid, further individualised assessment should be offered. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review,*** taking into account: • the nature of the driving task; • information provided by an ear nose and throat specialist or audiologist;** **and** • the results of a practical driver assessment if required. * Stable conditions may not require periodic review. ** For the purposes of this document an audiologist is a person registered with Audiology Australia (see <www.audiology.asn.au>). *** In some cases, noise amplification as a result of wearing hearing aids may lead to driver distraction and may warrant individualised assessment to determine fitness to drive without the hearing aid (refer to text on page 67).

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

References and further reading

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5. Musculoskeletal conditions

Refer also to Part A section 2.2.8 Drugs and driving; Part B section 6 Neurological conditions and section 10 Vision and eye disorders.

This section deals with fitness to drive in relation to a variety of musculoskeletal conditions and disabilities that may result in chronic pain, muscle weakness, joint stiffness or loss of limbs. Specific neuromuscular conditions, such as multiple sclerosis, are addressed under section 6 Neurological conditions. Musculoskeletal conditions are also likely to coexist with other impairments, such as visual and cognitive impairment, particularly in older people. For guidance in assessing multiple medical conditions refer to Part A section 2.2.7 Multiple conditions and age-related change.

5.1 Relevance to the driving task

5.1.1 Effects of musculoskeletal conditions on driving

A motor vehicle driver must be able to execute and coordinate many complex muscular movements in order to control the vehicle (refer to Figure 12). They must have an adequate range of movement, sensation, coordination and power of the upper and lower limbs. Generally speaking, the upper extremities are needed to steer, shift gears and operate secondary vehicle controls (e.g. the indicators and horn). The lower extremities are required to operate the clutch, brake and accelerator pedals. The ability to rotate the head is particularly important to permit scanning of the environment including when reversing.

Chronic impairment of the musculoskeletal system may arise from numerous disorders and trauma (e.g. amputations, arthritis, ankylosis, deformities and chronic lower back pain) resulting in limited range of movement or reduced sensation, balance, coordination or power. Issues related to muscle tone, spasm, sitting tolerance and endurance, as well as the effects of medications such as long-term opioid-based analgesics, may also need to be considered (refer to Part A section 2.2.8 Drugs and driving).

It is possible to drive safely with quite severe impairment; however, driver insight into functional limitations, stability of the condition and compensatory body movements or vehicle devices to overcome deficits are usually required. Adaptive equipment can be installed in many vehicles (e.g. hand-operated brake and accelerator, automatic transmission and height-adjustable seats) that enable many drivers with impairments to operate vehicles safely (refer to Table 6).

It should be noted that vehicles, especially commercial vehicles, vary considerably in terms of cabin design, vehicle controls and ergonomics. The needs of motorcyclists also differ due to the type of controls and the overall driving task, as well as requirements for balance and agility. Given this variability in requirements, the medical standards are based on functionality with respect to the particular vehicle and driving task rather than specific requirements in terms of range of movement.

5.1.2 Evidence of crash risk[1]

There is limited published data on the risk of a crash or loss of control of a vehicle due to musculoskeletal disorders. While several studies describe driving difficulties experienced by people with physical impairment affecting the musculoskeletal system, the evidence suggests there is only a slightly increased risk of crash associated with these disorders. This may be attributed to drivers' ability to compensate for physical impairments while driving or, as for various other conditions, it may be due to self-limiting of driving by people with these conditions.

5.2 General assessment and management guidelines

5.2.1 Clinical assessment

Figure 12 shows the general functional requirements for driving a motor vehicle, accepting that there is considerable variation depending on the specific vehicle. The cab of a commercial vehicle is reached by climbing up to it, the gear shift is more complicated and the pedals are often heavier to use than in a private car. The aim of a medical assessment is to identify drivers with functional problems that are likely to result in difficulty undertaking the driving task. A number of specific factors need to be considered when assessing fitness to drive:

- the strength of muscles to safely carry out driving functions
- the level of flexibility of individual joints or limbs to allow adequate mobility for safe driving
- the presence of pain that may impede movement and reduce the level of safety
- the person's endurance
- the person's sensory abilities (sensation, proprioception, kinaesthesia).

Figure 12: General functional requirements for driving motor vehicles (excluding motorcycles)

UPPER LIMBS

Able to move upper limb/s with sufficient range of movement, sensation, coordination and power to achieve required movements to:

- operate ignition
- hold and turn steering wheel
- operate secondary vehicle controls consistently (e.g. indicators)
- operate gear lever and hand brake (if needed).

LOWER LIMBS

Able to move lower limb/s with sufficient range of movement, sensation, coordination and power to operate foot controls.

NECK MOVEMENTS

Able to stabilise head and rotate neck to achieve required movements to:

- turn head to both sides to scan road and view mirrors
- turn head for reversing.

BACK MOVEMENTS

Able to maintain posture and move spine so as to support positions of head, upper and lower limbs needed for driving-related tasks.

5.2.2 Functional and practical assessment

A functional assessment and/or practical driver assessment may be required in addition to a clinical examination in order to provide appropriate information regarding a person's fitness to drive. The assessment may also identify requirements for vehicle adaptation or personal restrictions (refer to Table 6 for examples).

Processes for initiating and conducting driver assessments vary between the states and territories. Practical assessments may be conducted by occupational therapists or others approved by the particular driver licensing authority (refer to Part A section 2.3.1 Practical driver assessments). The assessments may be initiated by the examining health professional or by the driver licensing authority. Recommendations following assessment may relate to: licence status; the need for rehabilitation or retraining; licence conditions such as vehicle modification or personal restrictions; and requirements for reassessment. Information about the options for practical driver assessment in the relevant state or territory can be obtained by contacting the local driver licensing authority (Appendix 9: Driver licensing authority contacts). For information about occupational therapists qualified in driver assessment, contact Occupational Therapy Australia (refer to Appendix 10: Specialist driver assessors).

In the case of a driver seeking a conditional commercial vehicle licence, the person will have to initially demonstrate proficiency in driving a light vehicle (car) prior to being assessed in a commercial vehicle. For the commercial vehicle licence, an on-road driver assessment will need to be undertaken in the commercial vehicle and with modifications if required. This assessment should be conducted as required by the driver licensing authority.

Motorcyclists with a musculoskeletal disability will require a practical driver assessment (refer to Part A section 2.3.1 Practical driver assessments).

Table 6: Examples of vehicle modifications and personal restrictions relevant to musculoskeletal disorders*

Example of disability/situation	Examples of licence conditions (Vehicle modification or personal restrictions)
Left leg disability, left arm disability	Automatic transmission
Short stature	Built-up seat and pedals
Loss of leg function	Hand-operated controls
Loss of right leg function	Left foot accelerator
Reduced lower limb strength	Power brakes only
Reduced upper limb strength	Power steering only
Short leg/s	Extended pedals
Loss of limb function/limb deficient	Prosthesis required

*these are not mandatory requirements and may be unsuitable in some circumstances.

5.2.3 Congenital or non-progressive conditions

Drivers who have conditions of a non-progressive nature (e.g. congenital loss or incapacity of a limb) require a medical assessment for the first issue of a licence. Periodic review is not usually required if the condition is static.

5.2.4 Short-term musculoskeletal conditions

People with severe musculoskeletal pain (e.g. in the neck or thoracolumbar region) and reduced mobility, including that arising from wearing soft collars or braces, should be advised not to drive for the duration of their treatment. Some loss of neck movement is allowable if the vehicle is fitted with adequate internal and externally mounted mirrors, and provided the driver meets the visual standards for driving and has no cognitive or insight limitations that might impact on adopting compensatory strategies.

A person should generally not drive for a period of time after major orthopaedic surgery. This should be determined by the treating doctor and is not a licensing issue. Guidance regarding management of short-term conditions is included in Part A section 2.2.3 Temporary conditions. A driver assessor opinion may be obtained if there is ongoing limitation of function.

5.3 Medical standards for licensing

Requirements for unconditional and conditional licences are outlined in the following table.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Musculoskeletal conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Musculoskeletal disorders	A person is **not** fit to hold an **unconditional licence**: • if the driver's ability to perform the required driving activities (refer to Figure 12) is inadequate. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account: • the nature of the driving task; • information provided by the treating doctor on the benefit of treatments, prostheses or other devices; • a practical driver assessment if required;*** and** • any modification to the vehicle. * Motorcyclists with a musculoskeletal disability will require a practical driver assessment (refer to Part A section 2.3.1 Practical driver assessments).	A person is **not** fit to hold an **unconditional licence**: • if the driver's ability to perform the required driving activities (refer to Figure 12) is inadequate. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account: • the nature of the driving task; • information provided by the treating doctor on the benefit of treatments, prostheses or other devices; • the results of a practical driver assessment;*** and** • any modification to the vehicle. * All commercial vehicle drivers with a musculoskeletal disability will require a practical driver assessment (refer to Part A section 2.3.1 Practical driver assessments).
Note: The evaluation of the effectiveness of prostheses and the specification of appropriate modifications to vehicle controls is a specialist area. It is recommended that the person be referred to an occupational therapist specialising in the area and that the report from that professional be made available to the driver licensing authority (refer to Appendix 10: Specialist driver assessors).		

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

References and further reading

1. Monash University Accident Research Centre. Influence of chronic illness on crash involvement of motor vehicle drivers, 2nd edition, November 2010. Available: http://monashuniversity.mobi/muarc/reports/muarc300.html.
2. VicRoads, Occupational Therapy Australia. Guidelines for occupational therapy (OT) driver assessors, 2008.

6. Neurological conditions

Safe driving is a demanding task that requires a number of intact neurological functions including:

- visuospatial perception
- insight
- judgement
- attention and concentration
- comprehension
- reaction time
- memory
- sensation
- muscle power (refer to section 5 Musculoskeletal conditions)
- coordination
- vision (refer to section 10 Vision and eye disorders).

Impairment of any of these capacities may be caused by neurological disorders and thus affect safe driving ability. In addition to these deficits, some neurological conditions produce seizures.

This chapter provides guidance and medical criteria for the following conditions:

- dementia (refer to section 6.1)
- seizures and epilepsy (refer to section 6.2)
- other neurological conditions including (refer to section 6.3)
  - unruptured intracranial aneurysms and other vascular malformations
  - cerebral palsy
  - head injury
  - neuromuscular conditions
  - Parkinson's disease
  - multiple sclerosis
  - stroke
  - transient ischaemic attacks
  - subarachnoid haemorrhage
  - space-occupying lesions including brain tumours
  - neurodevelopmental disorders.

The focus of this chapter is on long-term or progressive disorders affecting driving ability and licensing status. Some guidance (advisory only) is provided regarding short-term fitness to drive, for example, following a head injury. Refer also to Part A section 2.2.3 Temporary conditions.

Where people experience musculoskeletal, visual or psychological symptoms, the relevant standards should also be considered. Refer to section 5 Musculoskeletal conditions, section 7 Psychiatric conditions and section 10 Vision and eye disorders.

6.1 Dementia

Refer also to Part A section 2.2.7 Multiple conditions and age-related change.

This section focuses on dementia, being defined for the purposes of this publication as a progressive deterioration of cognitive function due to degenerative conditions of the central nervous system. Other causes of fluctuating cognitive impairment or delirium, such as hepatic, renal or respiratory failure, do not usually have an impact on licence status and may be managed in the short term according to general principles (refer to Part A section 2.2 Medical conditions and driving).

6.1.1 Relevance to the driving task

Effects of dementia on driving

Dementia is characterised by significant loss of cognitive abilities such as memory capacity, psychomotor abilities, attention, visuospatial functions, insight and executive functions. It may arise due to numerous causes including Alzheimer's disease, Huntington's disease, frontotemporal dementia and vascular dementia. Alzheimer's disease is the most common cause, accounting for 50 to 70 per cent of cases. It mainly affects people over the age of 70.

Dementia may affect driving ability in a number of ways including:

- errors with navigation, including forgetting routes and getting lost in familiar surroundings
- limited concentration or 'gaps' in attention, such as failing to see or respond to 'stop' signs
- errors in judgement, including misjudging the distance between cars and misjudging the speed of other cars
- confusion when making choices, for example, difficulty choosing between the accelerator or brake pedals in stressful situations
- poor decision making or problem solving, including failure to give way appropriately at intersections and inappropriate stopping in traffic
- poor insight and denial of deficits
- slowed reaction time, including failure to respond in a timely fashion to instructions from passengers
- poor hand–eye coordination.

Evidence of crash risk[1]

A diagnosis of dementia is associated with a moderately high risk of collision compared with matched controls. However, the evidence does not suggest that all people with a diagnosis of dementia should have their licences revoked or restricted. Throughout all stages of their condition, drivers require regular monitoring regarding progression of the disease. While for some drivers the crash risk is minimised because they choose, or are persuaded by their family, to voluntarily cease driving, others with significant cognitive decline and limited insight may require careful management and support in this regard, as discussed below.

6.1.2 General assessment and management guidelines

The approach outlined below is summarised in Alzheimer's Australia 'Dementia and Driving Pathway' (page 79).

Assessment

Due to the progressive and irreversible nature of the condition, people with a diagnosis of dementia will eventually be a risk to themselves and others when driving. The level of impairment varies widely – each person will experience a different pattern and timing of impairment as their condition progresses, and some people may not need to stop driving immediately. Individual assessment and regular review are therefore important, although it is difficult to predict the point at which a person will no longer be safe to drive.

A combination of medical assessment (including specialist assessment as required) and off-road and on-road practical assessments appears to give the best indication of driver ability. For further information about practical driver assessments refer to Part A section 2.3.1 Practical driver assessments.

The following points may be of assistance in assessing a person:[2]

- **Driving history.** Have they been involved in any driving incidents? Have they been referred for assessment by the police or a driver licensing authority?
- **Vision.** Can they see things coming straight at them or from the sides? (refer to section 10 Vision and eye disorders)
- **Hearing.** Can they hear the sound of approaching cars, car horns and sirens?
- **Reaction time.** Can they turn, stop or speed up their car quickly?
- **Problem solving.** Do they become upset and confused when more than one thing happens at the same time?
- **Coordination.** Have they become clumsy and started to walk differently because their coordination is affected?
- **Praxis.** Do they have difficulty using their hands and feet when asked to follow motor instructions?
- **Alertness and perception.** Are they aware and understand what is happening around them? Do they experience hallucinations or delusions?
- **Insight.** Are they aware of the effects of their dementia? Is there denial?
- **Other aspects of driving performance.**
  - Can they tell the difference between left and right?
  - Do they become confused on familiar routes?
  - Can they comprehend road signs?
  - Can they respond to verbal instructions?
  - Do they understand the difference between 'stop' and 'go' lights?
  - Are they able to stay in the correct lane?
  - Can they read a road map and follow detour routes?
  - Has their mood changed when driving? (Some previously calm drivers may become angry or aggressive.)
  - Are they confident when driving?

Because of the lack of insight and variable memory abilities associated with most dementia syndromes, the person may minimise or deny any difficulties with driving. Relatives may be a useful source of information regarding overall coping and driving skills. They may comment about the occurrence of minor crashes, or whether they are happy to be driven by the person with dementia.

Transition from driving

Licence restrictions, such as limitation of driving within a certain distance from a driver's home, may be considered by the driver licensing authority (refer to section 6.1.3). Community mobility assessment and planning with reference to cessation of driving may include family support, accessing local public transport or using community buses, and provision of information regarding taxi and other community transport services available for people with disabilities. A number of resources are available to support the transition. Specific information resources are available through Alzheimer's Australia for drivers with dementia and their family/carers. Contact the National Dementia Helpline on 1800 100 500 or visit <www.alzheimers.org.au>. Further resources are listed in section 6.1.4 Information resources.

Failure to comply with advice or licence restriction

People may continue to drive despite being advised they are unsafe, and despite their licence being restricted or revoked. This may be because of denial, memory loss or loss of insight. Discussions with the person's family/carers may be helpful, and alternative transportation can be explored. Where the person is judged to be an imminent threat to safety, all states and territories (except the Northern Territory) provide indemnity for health professionals and other members of the public who notify the driver licensing authority of at-risk drivers; the driver licensing authority will then take the necessary steps.

6.1.3 Medical standards for licensing

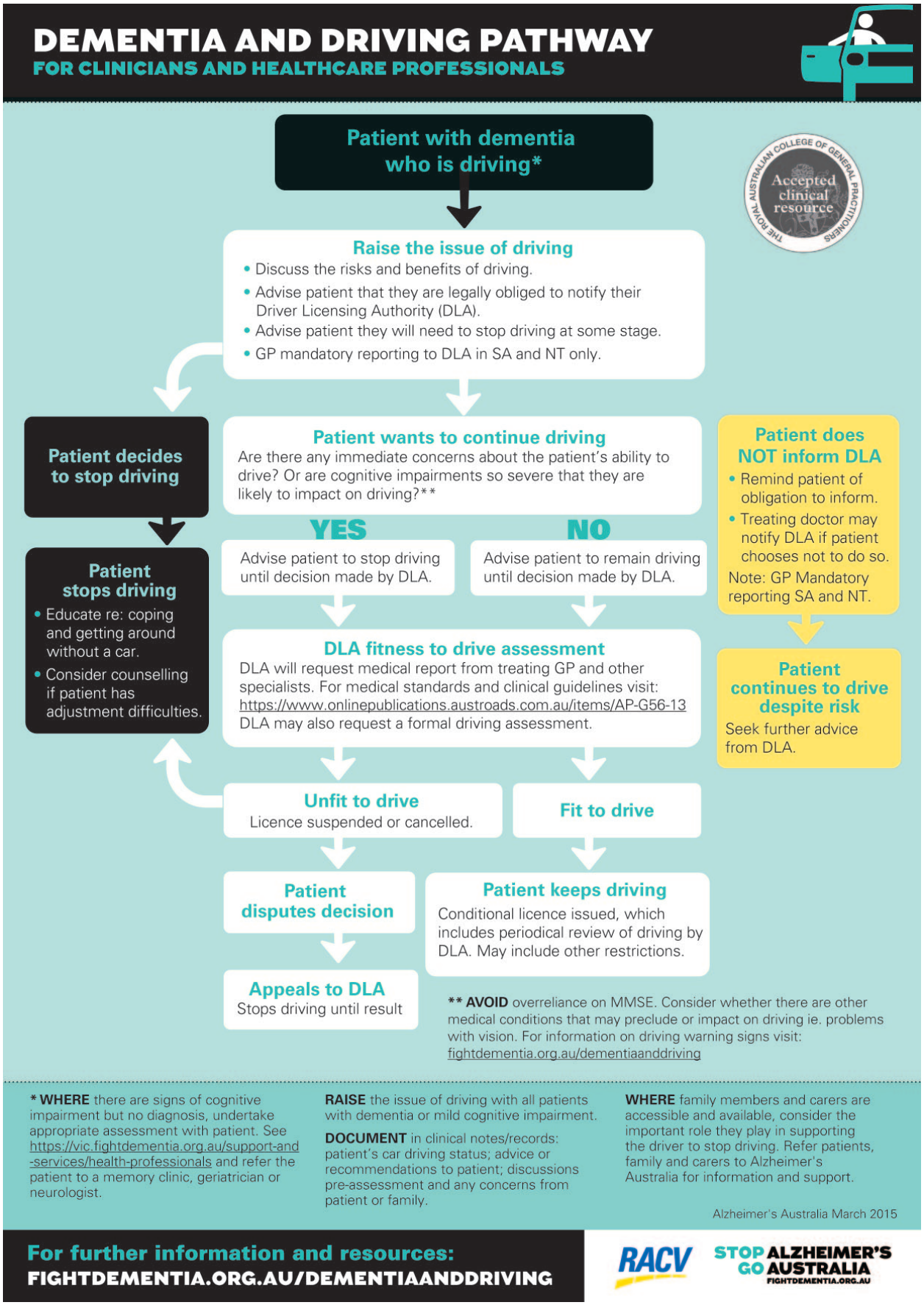
Requirements for unconditional and conditional licences are outlined in the table overleaf.

Due to the progressive nature of dementia and the need for frequent review, a person diagnosed with this condition may not hold an unconditional licence for either a private or commercial vehicle. Private vehicle drivers may be considered for a conditional licence subject to medical opinion and practical assessment as required. Commercial vehicle drivers require specialist assessment including a practical driver assessment (refer to Part A section 2.3.1 Practical driver assessments).

One option available to maintain a driver's independence despite a reduction in capacity is to recommend that an area restriction be placed on the licence. This effectively limits where the person can drive and is most commonly expressed as a kilometre radius restriction based on the driver's home address. Drivers should be capable of managing usual driving demands (e.g. negotiating intersections, giving way to pedestrians) as required in their local area. These licence conditions are only suitable for drivers who can reasonably be expected to understand and remember the limits as well as reliably compensate for any functional declines. The ability to respond appropriately and in a timely manner to unexpected occurrences such as roadworks or detours that require problem solving should also be considered. Thus, individuals lacking insight or with significant visual, memory or cognitive-perceptual impairments are usually not suitable candidates for a radius restriction. When advising such a restriction it is also important to remember the following:

- A driver may not always appreciate the meaning or extent of a specified number of kilometres from home.
- Potential hazards such as pedestrians, intersections, roadworks, bad weather and detours can still exist in familiar streets close to home and can be a source of confusion.
- A driver licence is a legal document that demonstrates that a driver has satisfied the driver licensing authority that they are fit to use the road system **as it exists** – this means they must be competent to deal with unexpected and hazardous situations, even when limited to driving close to home.
- Restrictions to specified routes are not practicable and should not be advised.

Drivers with a diagnosis of dementia will generally not meet the commercial standards. In some situations a conditional licence may be considered by the driver licensing authority subject to careful assessment by an appropriate specialist. Commercial vehicle drivers must also be subject to a practical driver assessment (refer to Part A section 2.3.1 Practical driver assessments).



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It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Dementia and other cognitive impairment		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Dementia	A person is **not** fit to hold an **unconditional licence**: • if the person has a diagnosis of dementia. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by the **treating doctor** regarding the level of impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time or memory and the likely impact on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments). The opinion of an appropriate specialist may also be considered.	A person is **not** fit to hold an **unconditional licence**: • if the person has a diagnosis of dementia. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** regarding the level of impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time or memory and the likely impact on driving ability; **and** • the results of a practical driver assessment.* * All commercial vehicle drivers will require a practical driver assessment (refer to Part A section 2.3.1 Practical driver assessments).

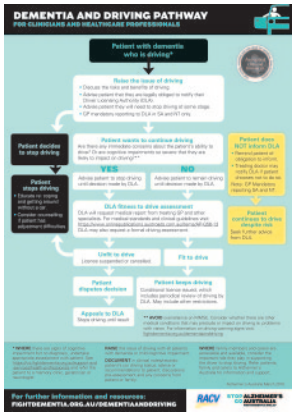
6.1.4 Information resources

Health professional resources

Alzheimer's Australia
https://fightdementia.org.au/dementiaanddriving/healthprofessionals

Alzheimer's Australia has developed a range of useful resources to support health professionals in managing patients with respect to their driving. These include:

- a short animation explaining the important aspects of driver assessment and management
  https://www.youtube.com/watch?v=zJ0N12dC_lo
- a pathway for management
  https://fightdementia.org.au/sites/default/files/VIC/documents/HP%20QUICK%20REFERENCECARD_FINAL.pdf
- information about having conversations with patients and carers
  https://fightdementia.org.au/sites/default/files/VIC/D%26DHelp%20Sheet_2015_FINAL.pdf



Driver and carer information resources

Alzheimer's Australia

https://fightdementia.org.au/about-dementia-and-memory-loss/dementia-and-driving

Alzheimer's Australia has a number of useful resources to support patients and carers with respect to their driving. These include two useful fact sheets and a guide for families and carers:

- Information for people with dementia – Driving
  https://fightdementia.org.au/files/helpsheets/Helpsheet-InformationForPeopleWithDementia04-DrivingAndDementia_english.pdf
- Caring for someone with dementia – Driving
  https://fightdementia.org.au/sites/default/files/helpsheets/Helpsheet-CaringForSomeone07-Driving_english.pdf
- Dementia and driving – Guide for families and carers
  https://vic.fightdementia.org.au/sites/default/files/VIC/documents/Dementia-and-Driving-guide-for-family-carers.pdf


INFORMATION FOR PEOPLE WITH DEMENTIA 4

ABOUT YOU...
DRIVING

If you have been diagnosed with dementia, this Help Sheet may be useful. It provides important information about driving and dementia.

Driving is a highly complex task that involves interaction between the brain, eyes and muscles. Dementia can affect driving ability in a number of ways, including:

- Finding your way around
- Remembering which way to turn
- Judging the distance from other cars and objects
- Judging the speed of other cars
- Reaction time
- Hand-eye coordination

Should I continue driving now?

A diagnosis of dementia doesn't necessarily mean that you need to stop driving straight away, however you will need to stop driving at some point.

You are required by law to tell your local licensing authority of any medical condition that might affect your ability to drive safely. Dementia is one of the medical conditions that needs to be disclosed because it affects driving ability.

The licensing authority will ask you to see a doctor who will assess your medical fitness. After this, you may need a formal driving assessment. Based on the results of these assessments, the licensing authority will decide if you can continue to drive.

If the licensing authority decides that you can continue to drive you will be issued with a conditional licence. Conditional licences are valid for a maximum of 12 months, after which time you will be reassessed.

Sometimes restrictions may also be placed on your licence. These restrictions might be that you can only drive close to home, or at certain times or below certain speed limits.

If you do not notify your licensing authority of your diagnosis, or if you continue to drive after your licence has been cancelled or suspended, there can be serious consequences. If you are in a crash you could be charged with driving offences or be sued. Your insurance company may not provide cover.

Changes in your ability to drive may mean that you need to get a driving assessment, or in some cases stop driving immediately. The following checklist may help you notice whether any changes are taking place.

When driving do you:

- Need direction?
- Become lost in familiar areas?
- Confuse left and right?
- Make slower decisions at traffic lights, intersections or when changing lanes?
- Have difficulty interpreting traffic signs?
- Drive more slowly?
- Take longer to react?
- Have difficulty responding to the unfamiliar?
- Drive on the wrong side of the road?
- Change lanes inappropriately?
- Violate traffic laws?
- Cause damage to the car which you are unable to explain?

FIGHTDEMENTIA.ORG.AU NATIONAL DEMENTIA HELPLINE 1800 100 500

UNDERSTAND ALZHEIMER'S EDUCATE AUSTRALIA

This help sheet is funded by the Australian Government under the National Dementia Support Program


CARING FOR SOMEONE WITH DEMENTIA 7

DRIVING

This Help Sheet describes the effects that dementia may have on driving skills and suggests ways to help a driver who has been diagnosed with dementia.

Driving can seem like an automatic activity. However, it is a complicated task that requires complex thought processes, manual skills and fast reaction times. Dementia can cause loss of memory, limited concentration, and vision and insight problems. This affects a person's judgement and ability to drive safely.

A person diagnosed with dementia may not need to stop driving straight away. However, dementia causes a progressive and irreversible decline in functioning, and the person will need to stop driving at some point.

Licensing requirements

All drivers are required by law to tell their local licensing authority of any medical condition that might affect their ability to drive safely. Dementia, diabetes and some heart conditions all need to be disclosed because they may affect a person's driving ability.

Once notified, the licensing authority will ask that the driver's doctor makes an initial assessment of the driver's medical fitness. After this, a formal driving assessment may be required. Based on the results of these assessments the licensing authority will decide if the person can continue to drive.

If the person with dementia can continue to drive they will be issued a conditional licence. Conditional licences are valid for a maximum of 12 months, after that the driver will be reassessed. Sometimes restrictions are also placed on the licence holder. These restrictions might be that the person can only drive close to home, at certain times, or below certain speed limits.

If a person with dementia continues to drive and they have not notified their licensing authority, or if they continue to drive after their licence has been cancelled or suspended, there can be serious consequences. If the driver is in a crash they could be charged with driving offences or be sued. In addition their insurance company may not provide cover.

Individual responses

For people living alone or in rural and remote areas it can be especially difficult to manage without driving. People may feel a loss of independence or identity when they can no longer drive. For someone in the early stages of dementia making the decision to give up driving can be very challenging.

Some people will recognise their declining ability; others may not, or may simply forget that they are no longer safe to drive. For others it will be a relief to no longer have the responsibility of driving.

Signs that dementia may be affecting a person's driving

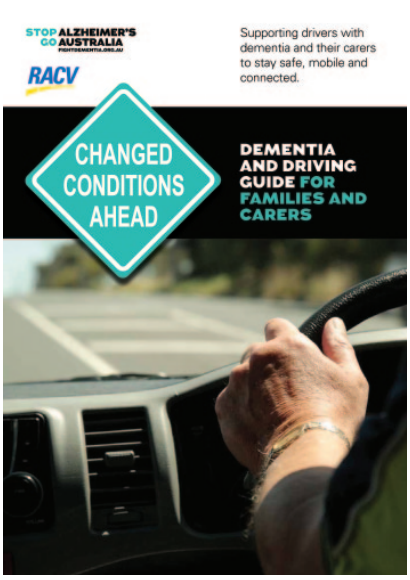
Changes in driving behaviour may have been occurring for some time without being noticed. Consider the following driving warning signs:

- Vision – Can they see things coming straight at them and from the sides? Can they see and respond appropriately to traffic signs and signals?
- Hearing – Can they hear the sound of approaching cars, car horns and sirens and respond appropriately? Do they pay attention to these when in the car?
- Reaction time – Can they turn, stop or speed up their car quickly?
- Problem solving – Do they become upset and confused when more than one thing happens at the same time?
- Coordination – Is their coordination affected? Do they get the brake and accelerator pedals mixed up?
- Alertness – Are they aware and understand what is happening around them?
- Can they tell the difference between left and right?
- Do they become confused on familiar routes? Do they get lost or take a long time on familiar journeys?
- Do they understand the difference between Stop and Go-coloured lights?
- Are they able to stay in the correct lane?
- Can they read a road map and follow detour routes?

FIGHTDEMENTIA.ORG.AU NATIONAL DEMENTIA HELPLINE 1800 100 500

UNDERSTAND ALZHEIMER'S EDUCATE AUSTRALIA

This help sheet is funded by the Australian Government under the National Dementia Support Program



Alzheimer's Australia also has state-specific information regarding dementia and driving including licensing requirements:

- Alzheimer's ACT – Dementia and driving https://act.fightdementia.org.au/act/about-dementia-and-memory-loss/dementia-and-driving
- Alzheimer's NSW – Dementia and driving https://nsw.fightdementia.org.au/nsw/about-dementia-and-memory-loss/dementia-and-driving
- Alzheimer's NT – Dementia and driving https://nt.fightdementia.org.au/nt/about-dementia-and-memory-loss/dementia-and-driving
- Alzheimer's QLD – Dementia and driving https://qld.fightdementia.org.au/qld/about-dementia-and-memory-loss/dementia-and-driving
- Alzheimer's SA – Dementia and driving https://sa.fightdementia.org.au/sa/about-dementia-and-memory-loss/dementia-and-driving
- Alzheimer's TAS – Dementia and driving https://tas.fightdementia.org.au/tas/about-dementia-and-memory-loss/dementia-and-driving
- Alzheimer's VIC – Dementia and driving https://vic.fightdementia.org.au/vic/about-dementia-and-memory-loss/dementia-and-driving
- Alzheimer's WA – Dementia and driving https://wa.fightdementia.org.au/wa/about-dementia-and-memory-loss/dementia-and-driving

State and territory-based resources

Australian Capital Territory

- Seniors Moving Safely www.seniorsmovingsafely.org.au

New South Wales

- Roads and Maritime Services – Older drivers http://www.rms.nsw.gov.au/roads/licence/older-drivers/index.html
- NRMA older drivers http://www.mynrma.com.au/motoring-services/education/older-drivers.htm

Northern Territory

- Northern Territory Department of Transport
  https://nt.gov.au/driving/licences

Queensland

- Medical certificates for older drivers http://www.qld.gov.au/seniors/transport/safe-driving/
- Royal Automobile Club of Queensland (RACQ) Older Drivers www.racq.com.au/motoring/roads/road_safety/older_road_users

South Australia

- South Australian Seniors Transport http://www.sa.gov.au/topics/seniors/transport

Tasmania

- Tasmanian Older Drivers website http://www.transport.tas.gov.au/licensing/information/older_drivers

Victoria

- TAC older drivers http://www.tac.vic.gov.au/road-safety/safe-driving/older-drivers
- VicRoads older drivers https://www.vicroads.vic.gov.au/safety-and-road-rules/driver-safety/older-drivers
- VicRoads – Dementia https://www.vicroads.vic.gov.au/licences/medical-conditions-and-driving/medical-conditions/dementia
- How safe is your car? – older drivers www.howsafeisyourcar.com.au/Driving-Safely/Older-Drivers/

Western Australia

- Senior driver licence renewals http://www.transport.wa.gov.au/licensing/renew-my-drivers-licence-seniors-85-plus.asp

Other

- DrugInfo Clearinghouse – safer driving: older drivers http://www.druginfo.adf.org.au/information-for/information-for-older-drivers

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

References and further reading

1. Monash University Accident Research Centre. Influence of chronic illness on crash involvement of motor vehicle drivers, 2nd edition, November 2010. Available: http://monashuniversity.mobi/muarc/reports/muarc300.html.
2. Australian and New Zealand Society of Geriatric Medicine. Position Statement No.11: Driving and dementia, 2009. Available: www.anzsgm.org/documents/PS11DrivingandDementiaapproved6Sep09.pdf.
3. VicRoads, Occupational Therapy Australia. Guidelines for occupational therapy (OT) driver assessors, 2008.

6.2 Seizures and epilepsy

Refer also to section 1 Blackouts and section 2 Cardiovascular conditions.

6.2.1 Relevance to the driving task

Effects of seizures on driving

Seizures vary considerably, some being purely subjective experiences (e.g. some focal seizures) but the majority involve some impairment of consciousness (e.g. absence and complex partial seizures) or loss of voluntary control of the limbs (e.g. focal motor and complex partial seizures). Convulsive (tonic–clonic) seizures may be generalised from onset or secondarily generalised with focal onset. Seizures associated with loss of awareness, even if brief or subtle, or loss of motor control, have the potential to impair the ability to control a motor vehicle.

Evidence of crash risk[1]

Most studies have reported an elevated crash risk among drivers with epilepsy, but the size of the risk varies considerably across the studies. The majority of studies have found that individuals with epilepsy are twice as likely to be involved in a motor vehicle crash compared with the general driving population. More recent studies have found that drivers who do not take anti-epileptic medication as prescribed are at an increased risk for experiencing a crash.

6.2.2 General assessment and management guideline

Epilepsy refers to the tendency to experience recurrent seizures. Not all people who experience a seizure have epilepsy.

Epilepsy is a common disorder with a cumulative incidence of 2 per cent of the population, with 0.5 per cent affected and taking medication at any one time. The majority of cases respond well to treatment, with a terminal remission rate of 80 per cent or more. The majority suffer few seizures in a lifetime, and about half will have no further seizures in the first one or two years after starting treatment. Some people with epilepsy may eventually cease medication. For others, surgery may be beneficial.

In general, responsible individuals with well-managed epilepsy (as demonstrated by an appropriate seizure-free period and compliance with treatment and other recommendations) may be considered by the driver licensing authority to be fit to drive a private vehicle. Conditional licences rely on individual responsibility for management of the condition, including compliance with treatment, in conjunction with the support of a health professional and regular review.

Commercial vehicle driving exposes the driver and the public to a relatively greater risk because of the increased time spent at the wheel, as well as the generally greater potential for injury from motor vehicle crashes due to the greater size or weight of commercial vehicles, or large numbers of passengers carried. For this reason, the acceptable risk of a seizure-related crash for commercial driving is much less, and the requirements applied are much more strict; in addition, sleep deprivation is a common provoking factor in epilepsy and may be experienced in long-distance transport driving and amongst drivers doing shift work.

It is good medical practice for any person with initial seizures to be referred to a specialist, where available, for accurate diagnosis of the specific epilepsy syndrome so that appropriate treatment is instituted and all the risks associated with epilepsy, including driving, can be explained.

With regard to licensing, the treating doctor/general practitioner may liaise with the driver licensing authority about whether the criteria are met for driving a private vehicle, but only a specialist may do so for a commercial vehicle driver.

Advice to licence holders

All licence holders should be advised of the following general principles for safety when driving.

- The person must continue to take anti-epileptic medication regularly as recommended.
- The person should ensure adequate sleep is had and not drive when sleep-deprived.
- The person should avoid circumstances, or the use of substances (e.g. excessive alcohol), that are known to increase the risk of seizures.

It is good medical practice for any person with epilepsy to be reviewed periodically. Patients who are licence holders should also be monitored regarding their response to treatment and compliance with the general advice for safety when driving. Drivers of private vehicles who hold a conditional licence should be reviewed at least annually by the treating doctor. Commercial vehicle drivers should be reviewed at least annually by a specialist regarding any conditional licence that has been issued.

If a patient refuses to follow a treating doctor's recommendation to take anti-epileptic medication, the patient should be assessed as not fit to drive and the doctor should consider notifying the driver licensing authority (refer to Part A section 3.3.1 Confidentiality, privacy and reporting to the driver licensing authority). Refer also to Medication noncompliance in this section (page 88).

Concurrent conditions

Where epilepsy is associated with other impairments or conditions, the relevant sections covering those disorders should also be consulted.

Other conditions with risk of seizure

Seizures can occur in association with many brain disorders. Some of these disorders may also impair safe driving because of an associated neurological deficit. Both the occurrence of seizures, as well as the effect of any neurological deficit, must be taken into account when determining fitness to drive. Management of acute symptomatic seizures caused by a transient brain disorder or a metabolic disturbance (e.g. encephalitis, hyponatraemia, head injury or drug or alcohol withdrawal) are covered on page 90 of this standard. Refer also to section 6.3 Other neurological and neurodevelopmental conditions for seizures associated with head injury and intracranial surgery.

Loss of consciousness due to other causes

In cases where it is not possible to be certain that an episode of loss of consciousness is due to a seizure or some other cause, refer to section 1.2.4 Blackouts of underdetermined mechanism.

6.2.3 Medical standards for licensing

Given the considerable variation in seizures and their potential impact on safe driving, a hierarchy of standards has been developed that provides a logical and fair basis for decision making regarding licensing. This hierarchy comprises:

- a default standard, applicable to all cases of seizure, unless reductions are allowed (refer below and to the table on page 89)
- reductions for specific types of epilepsy or specific circumstances, including an allowance for exceptional circumstances upon the advice of a specialist in epilepsy (refer below and to the table on page 89).

In addition, advice is provided on a number of difficult management issues relating to safe driving for people with seizures and epilepsy (refer below and to the table on page 89).

The default standard (all cases)

The 'default standard' is the standard that applies to all drivers who have had a seizure unless their situation matches one of a number of defined situations listed in the table and described below. These situations are associated with a lower risk of a seizure-related crash and therefore driving may be resumed after a shorter period of seizure freedom than required under the default standard. However, the need for adherence to medical advice and at least annual review still applies. If a seizure has caused a crash within the preceding 12 months, the required period of seizure freedom may not be reduced below that required under the default standard. If anti-epileptic medication is to be withdrawn, the person should not drive (refer to table for details). If a driver who is taking anti-epileptic medication has experienced an extended seizure-free period (more than 10 years for private drivers, and more than 20 years for commercial drivers) the driver licensing authority may consider reduced review requirements based on independent specialist advice (refer to section 3.3.7 Independent experts/panels).

Variations to the default standard

There are several situations in which a variation from the default standard may be considered by the driver licensing authority to allow an earlier return to driving. These are listed below and discussed on subsequent pages:

- seizures in childhood
- first seizure
- epilepsy treated for the first time
- acute symptomatic seizures
- 'safe' seizures
- seizures only in sleep
- seizures in a person previously well controlled
- exceptional circumstances.

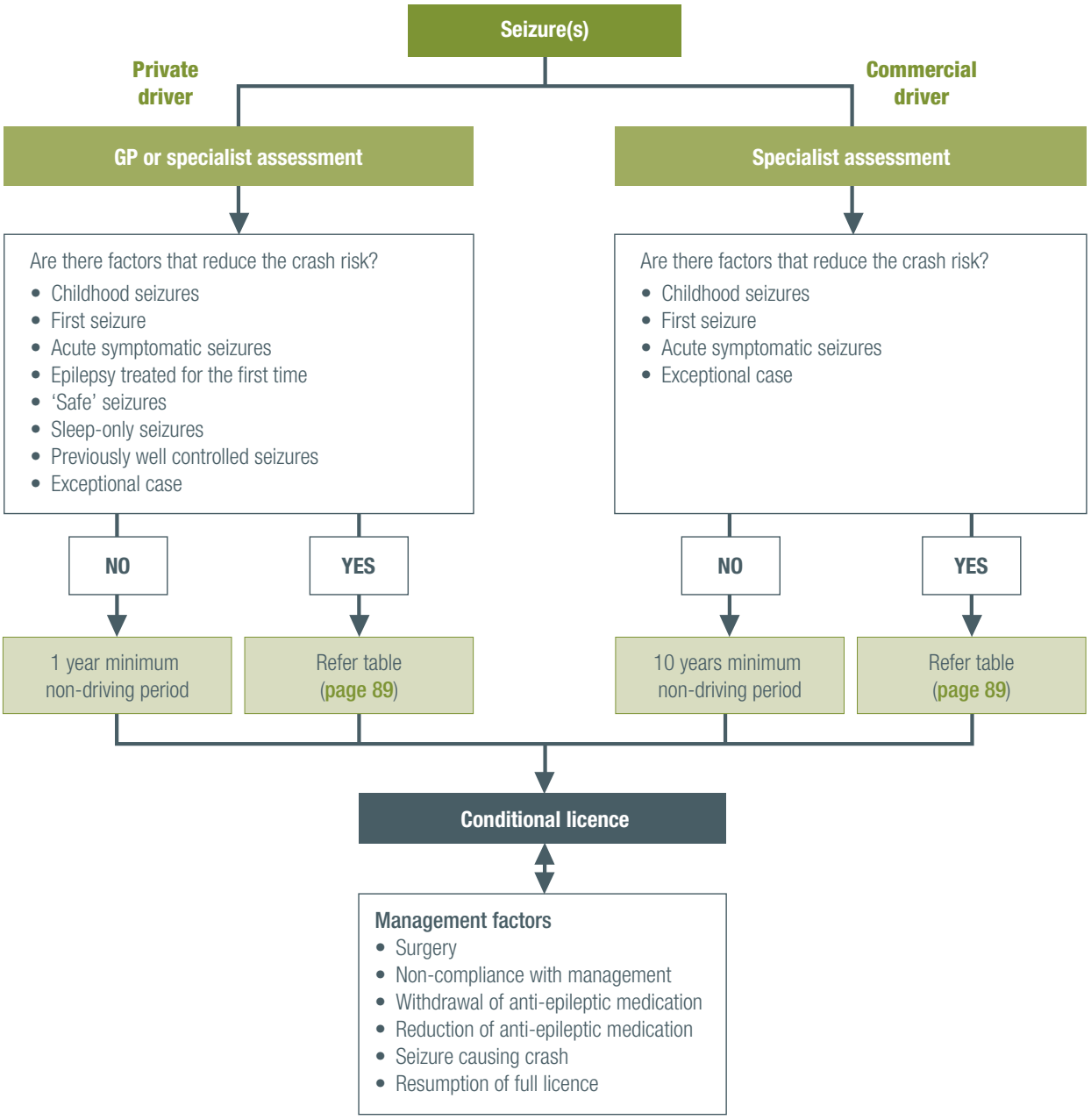
In most cases, exceptions to the default standard will be considered only for private vehicle drivers. A reduction in restrictions for commercial vehicle drivers will generally only be granted after consideration of information provided by a specialist with expertise in epilepsy.

If a person has experienced a crash as a result of a seizure, the default non-driving seizure-free period applies, even if the situation matches one of those above.

In addition to the reduction for particular circumstances or seizure types, there is also an allowance for '**exceptional cases**' in which a conditional licence may be considered for private or commercial vehicle drivers on the recommendation of a medical specialist with specific expertise in epilepsy (refer to text page 88 and to the table on page 92). This enables individualisation of licensing for cases where the person does not meet the standard but may be safe to drive.

- **Licensing of drivers with a history of childhood febrile seizures or benign epilepsy syndrome of childhood**
  In some specific childhood epilepsy syndromes, seizures usually cease before the minimum age of driving. The driver may hold an unconditional licence if no seizures have occurred after the age of 11 years. If a seizure has occurred after 11 years of age, the default standard applies unless the situation matches one of those in this section (Variations to the default standard).
- **The first seizure**
  The occurrence of a first seizure warrants medical specialist assessment, where available. Approximately half of all people experiencing their first seizure will never have another seizure, while half will have further seizures (i.e. epilepsy). The risk of recurrence falls with time. Driving may be resumed after sufficient time has passed without further seizures (with or without medication) to allow the risk to reach an acceptably low level (refer to table page 89). If a second seizure occurs (except on the same day as the first), the risk of recurrence is much higher. The standard for Epilepsy treated for the first time will then apply (refer to text page 86 and the table on page 90).

Figure 13: Overview of management of a driver with seizures



- **Epilepsy treated for the first time** (refer to Figure 14)
  The risk of recurrent seizures in people starting treatment for epilepsy is sufficiently low to allow driving to resume earlier than required under the default standard. For the purpose of these standards, epilepsy treated for the first time means that treatment was started for the first time within the preceding 18 months.

  When treatment with an anti-epileptic drug is started in a previously untreated person, sufficient time should pass to establish that the drug is effective before driving is recommenced. However, effectiveness cannot be established until the person reaches an appropriate dose. For example, if a drug is being gradually introduced over three weeks and a seizure occurs in the second week, it would be premature to declare the drug ineffective. The standard allows seizures to occur within the first six months after starting treatment without lengthening the required period of seizure freedom. However, if seizures occur more than six months after starting therapy, a longer seizure-free period is required (refer to table for details). For commercial drivers, the default standard applies.

  For example, if a patient has a seizure three months after starting therapy, they may be fit to drive six months after the most recent seizure (nine months after starting therapy). However, if a person experiences a seizure eight months after starting therapy, the default standard applies and they may not be fit to drive until 12 months after the most recent seizure.

  If the patient has received no treatment in the last 5 years or more, resumption of treatment is managed as if treated for the first time (as above).

- **Acute symptomatic seizures**
  Acute symptomatic seizures are caused by a transient brain disorder or metabolic disturbance (e.g. encephalitis, hyponatraemia, head injury or drug or alcohol withdrawal) in patients without previous epilepsy. Acute symptomatic seizures can be followed by further seizures weeks, months or years after resolution of the transient brain disorder. This may occur because of permanent changes to the brain caused by the process underlying the acute symptomatic seizures (e.g. seizures may return years after a resolved episode of encephalitis) or because the transient brain disorder has recurred (e.g. benzodiazepine withdrawal).

  People who have experienced a seizure only during and because of a transient brain disorder or metabolic disturbance should not drive for a sufficient period to allow the risk of recurrence to fall to an acceptably low level (refer to table for details). Return to driving for commercial vehicle drivers requires input from a specialist in epilepsy. The risk of seizure recurrence varies greatly, depending on the cause.

  If seizures occur after the causative acute illness has resolved, whether or not due to a second transient brain disorder or metabolic disturbance, the acute symptomatic seizures standard no longer applies. For example, if a person has a seizure during an episode of encephalitis and then, after recovery from the encephalitis, has another seizure and begins treatment, the standard for epilepsy treated for the first time applies. Similarly, if a person experiences seizures during two separate episodes of benzodiazepine withdrawal, the default standard applies.

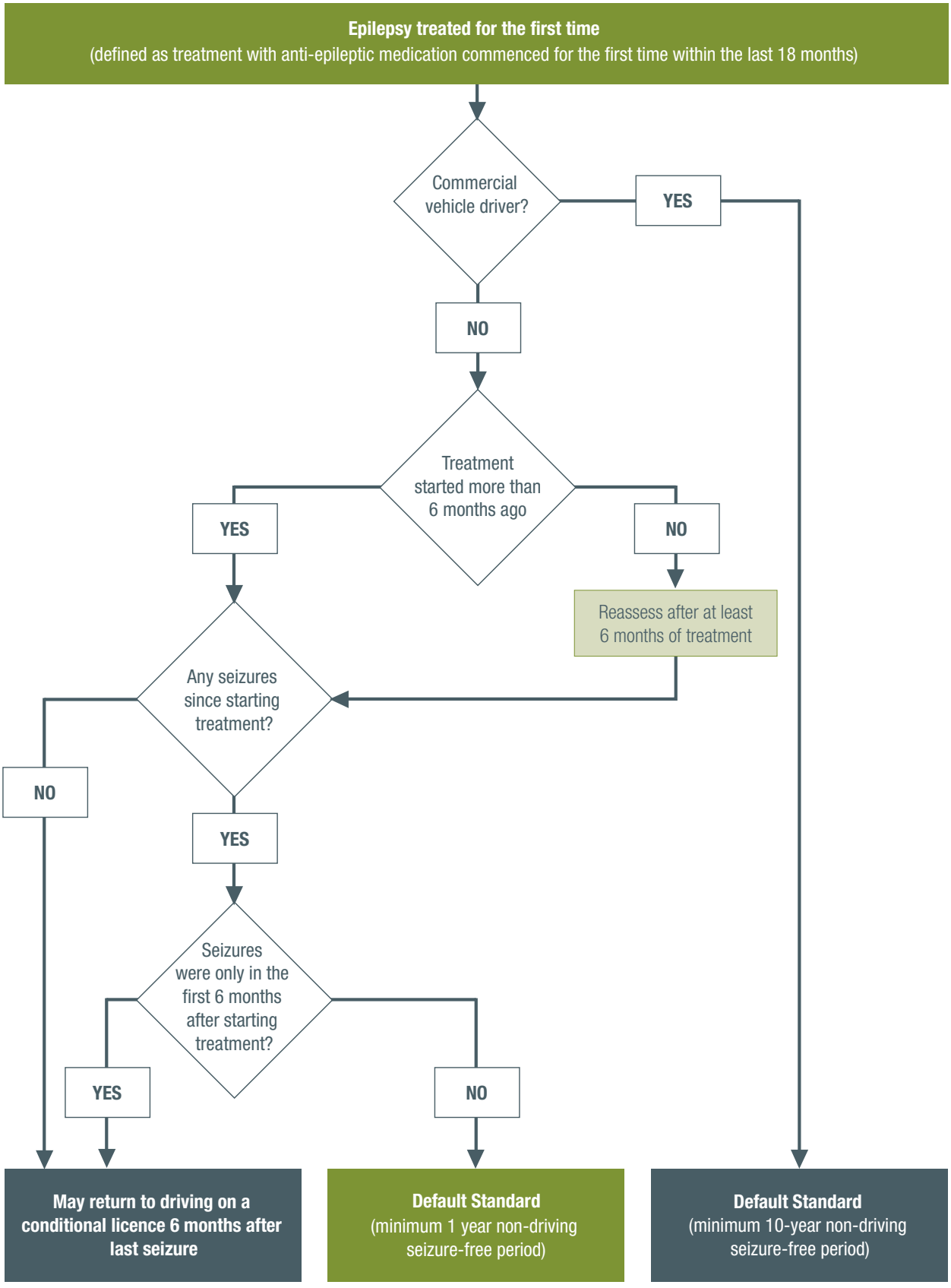
  The management of late post-traumatic epilepsy is discussed below under Head injury (page 97).

- **'Safe' seizures (including prolonged aura)**
  Some seizures do not impair consciousness or the ability to control a motor vehicle; however, this must be well established without exceptions and corroborated by reliable witnesses or video-EEG recording because people may believe their consciousness is unimpaired when it is not. For example, some 'auras' are associated with impaired consciousness that the person does not perceive. For private vehicle drivers, where seizures occur only at a particular time of day (e.g. in the first hour after waking), a restricted licence, which limits driving to certain hours or circumstances, may be acceptable. This applies only to private vehicle drivers.

  Seizures may begin with a subjective sensation (the 'aura') that precedes impairment of consciousness. If this lasts long enough, the driver may have time to stop the vehicle. However, this can be relied upon only when this pattern has been well established without exceptions and corroborated by witnesses or video-EEG monitoring. Furthermore, it may be impossible to stop immediately and safely because of traffic conditions. Even if the person is able to stop the vehicle before the seizure, they may then be in a confused state and not appreciate the danger of resuming their journey. For these reasons, such seizures can be considered safe only in exceptional circumstances.

- **Sleep-only seizures**
  Some seizures occur only during sleep and hence are not a hazard to driving. In people who have never had a seizure while awake but who have an established pattern of seizures exclusively during sleep, the risk of subsequent seizures while awake is sufficiently low to allow private driving, despite continuing seizures while asleep. In people with an established pattern of sleep-only seizures but a history of previous seizures while awake, the risk of further seizures while awake is higher. Therefore, a longer period of sleep-only seizures is required before driving by this group than in those who have never had a seizure while awake. This applies only to private vehicle drivers.

Figure 14: Epilepsy treated for the first time



- **Seizure in a person whose epilepsy has been previously 'well controlled'**
  Where a single seizure occurs after a long period (defined in these standards as at least 12 months) without seizures, the risk of further seizures is sufficiently low that driving can be resumed after a shorter period than when the epilepsy has not been as well controlled. The duration of the non-driving seizure-free period depends on whether or not a provoking factor was identified and can be reliably avoided (refer below). This applies only to private vehicle drivers who are already under treatment.

  In people with epilepsy, their seizures are often provoked by factors such as sleep deprivation, missed doses of anti-epileptic medication, over-the-counter medications, alcohol or acute illnesses. If the provoking factor is avoided, the risk of subsequent seizures may be sufficiently low to allow private driving to resume after a shorter seizure-free period than following an unprovoked seizure. However, this applies only if the epilepsy has been well controlled until the provoked seizure (refer to previous point). Some provocative factors (e.g. sleep deprivation), unless severe, cannot be reliably avoided. Refer also to Medication noncompliance below.

- **Exceptional cases**
  Where a medical specialist experienced in the management of epilepsy considers that a person with seizures or epilepsy does not meet the standards for a conditional licence but nonetheless may be safe to drive, a conditional licence may be considered if the driver licensing authority, after considering clinical information provided by the treating medical specialist, considers that the risk of a crash caused by a seizure is acceptably low.

Other factors that may influence licensing status

A number of other factors may influence the management of epilepsy with regards to driving and licensing. These include:

- epilepsy treated by surgery
- medication noncompliance
- cessation of anti-epileptic medication
- a seizure causing a crash
- resumption of an unconditional licence.

These issues are discussed below and criteria are outlined in the table on page 93 and 94.

- **Epilepsy treated by surgery**
  Resection of epileptogenic brain tissue may eliminate seizures completely, allowing safe driving after a suitable seizure-free period. The vision standard may also apply if there is a residual visual field defect. If medication is withdrawn, refer to Withdrawal or dose reduction of one or more anti-epileptic medications below.

- **Medication noncompliance**
  Compliance with medical advice regarding medication intake is a requirement for conditional licensing. Where noncompliance with medication is suspected by the treating doctor, the doctor may recommend to the driver licensing authority that the licence be granted conditional upon periodic drug-level monitoring. Where a person without a history of noncompliance with medication experiences a seizure because of a missed dose and there were no seizures in the 12 months leading up to that seizure, the situation can be considered a provoked seizure (refer to the standard for Seizure in a person whose epilepsy has been previously well controlled above).

- **Withdrawal or dose reduction of one or more anti-epileptic medications**
  In people who have had no seizures while taking anti-epileptic medication over a suitable period, the specialist may attempt a withdrawal of all anti-epileptic medication, a reduction in the number of medications or a reduction in dose. The medication may also be changed because of side-effects or potential side-effects (such as teratogenicity). The person should not drive for the full period of withdrawal or dose change and for 3 months thereafter. However, if the dose is being reduced only because of current dose-related side-effects and is unlikely to result in a seizure, driving may continue. The person will already be on a conditional licence, thus notification of the driver licensing authority is not required. Patients who do not adhere to the prescribed dose should be reminded that compliance is a condition of their licence.

  For commercial vehicle drivers, if anti-epileptic medication is to be withdrawn, the person will no longer meet the criteria to hold a conditional licence. This also applies to a reduction in dose of anti-epileptic medication except if the dose reduction is due only to the presence of current dose-related side-effects (refer to page 94). Driving may continue despite withdrawal of anti-epileptic medication only after consideration by the driver licensing authority under the Exceptional cases standard (e.g. where anti-epileptic therapy has been started in a patient without seizures).

- **Seizure causing a crash or loss of control of a vehicle**
  Not all seizures carry the same risk of causing a crash or lack of control of a vehicle. People who have lost control of a vehicle as a result of a seizure are likely to have a higher crash risk. If a person who has lost control of a vehicle or experienced a crash as a result of a seizure, the default seizure-free non-driving period applies, even if they fall into one of the categories that allow a reduction.

- **Resumption of an unconditional licence**
  Where a person has had no seizures for at least five years and has taken no anti-epileptic medication for at least the preceding 12 months, the driver licensing authority may consider granting an unconditional licence. This does not apply to commercial vehicle drivers.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Seizures and epilepsy

Step 1: Read 'All cases'. This applies to all people with seizures.

Step 2: Look through the list of situations in the left column to see if the person matches one of these situations. If so, the driver licensing authority may consider a conditional licence after a shorter (reduced) period of seizure freedom. Note that people are not eligible for a reduction if they have had a motor vehicle crash due to a seizure within the preceding 12 months. If withdrawal of all antiepileptic medication is planned, refer to the relevant section of the table.

Condition	Private standards (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	Commercial standards (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
All cases: default standard		
All cases (default standard) Applies to all people who have experienced a seizure. Exceptions may be considered only if the situation matches one of those listed below.	A person is **not** fit to hold an **unconditional licence**: • if the person has experienced a seizure. 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: • there have been no seizures for at least **12 months;**** **and** • the person follows medical advice, including adherence to medication if prescribed or recommended. * If a driver undergoing treatment for epilepsy has experienced an extended seizure free period (more than 10 years) the driver licensing authority may consider reduced review requirements based on independent specialist advice (refer to section 3.3.7 Independent experts/panels). ** Shorter seizure-free periods may be considered by the driver licensing authority if the person's situation matches one of those in the remainder of this table.	A person is **not** fit to hold an **unconditional licence**: • if the person has experienced a seizure. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review,*** taking into account information provided by a **specialist in epilepsy** as to whether the following criteria are met: • there have been no seizures for at least **10 years;**** **and** • an EEG conducted in the last six months has shown no epileptiform activity and no other EEG conducted in the last 12 months has shown epileptiform activity; **and** • the person follows medical advice, includingadherence to medication if prescribed or recommended. * If a driver undergoing treatment for epilepsy has experienced an extended seizure free period (more than 20 years) the driver licensing authority may consider reduced review requirements based on independent specialist advice (refer to section 3.3.7 Independent experts/panels). ** Shorter seizure-free periods may he considered by the driver licensing authority if the person's situation matches one of those in the remainder of this table.
Possible reductions in the non-driving seizure-free periods for a conditional licence		
History of a benign seizure or epilepsy syndrome usually limited to childhood (e.g. febrile seizures, benign focal epilepsy, childhood absence epilepsy)	A history of a benign seizure or epilepsy syndrome usually limited to childhood does not disqualify the person from holding an unconditional licence, as long as there have been no seizures after 11 years of age. If a seizure has occurred after 11 years of age, the default standard (refer above) applies unless the situation matches one of those listed below.	A history of a benign seizure or epilepsy syndrome usually limited to childhood does not disqualify the person from holding an unconditional licence, as long as there have been no seizures after 11 years of age. If a seizure has occurred after 11 years of age, the default standard (refer above) applies unless the situation matches one of those listed below.

Medical standards for licensing – Seizures and epilepsy

Step 1: Read 'All cases'. This applies to all people with seizures.

Step 2: Look through the list of situations in the left column to see if the person matches one of these situations. If so, the driver licensing authority may consider a conditional licence after a shorter (reduced) period of seizure freedom. Note that people are not eligible for a reduction if they have had a motor vehicle crash due to a seizure within the preceding 12 months. If withdrawal of all antiepileptic medication is planned, refer to the relevant section of the table.

Condition	Private standards (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	Commercial standards (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Possible reductions in the non-driving seizure-free periods for a conditional licence (cont'd)		
First seizure Note: Two or more seizures in a 24 hour period are considered a single seizure.	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 criterion is met: • there have been no further seizures (with or without medication) for at least **six months**. • if anti-epileptic therapy has been started, see Epilepsy treated for the first time	A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account information provided by a **specialist in epilepsy** as to whether the following criteria are met: • there have been no seizures for at least **five years** (with or without medication); **and** • an EEG conducted in the last six months has shown no epileptiform activity and no other EEG conducted in the last 12 months has shown epileptiform activity.
Epilepsy treated for the first time This applies when anti-epileptic treatment has been started for the first time within the preceding 18 months. See flow chart, page 87.	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.
Acute symptomatic seizures Seizures occurring only during a temporary brain disorder or metabolic disturbance in a person without previous seizures. This includes head injuries and withdrawal from drugs or alcohol. This is not the same as provoked seizures in a person with epilepsy.	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 criterion is met: • there have been no further seizures for at least **six months**. If there have been two or more separate transient disorders causing acute symptomatic seizures, the default standard applies.	A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account information provided by a **specialist in epilepsy** as to whether the following criteria are met: • there have been no further seizures for at least **12 months**; **and** • an EEG conducted in the last **six months** has shown no epileptiform activity and no other EEG conducted in the last **12 months** has shown epileptiform activity. If there have been two or more separate transient disorders causing acute symptomatic seizures, the default standard applies.

Medical standards for licensing – Seizures and epilepsy

Step 1: Read 'All cases'. This applies to all people with seizures.

Step 2: Look through the list of situations in the left column to see if the person matches one of these situations. If so, the driver licensing authority may consider a conditional licence after a shorter (reduced) period of seizure freedom. Note that people are not eligible for a reduction if they have had a motor vehicle crash due to a seizure within the preceding 12 months. If withdrawal of all antiepileptic medication is planned, refer to the relevant section of the table.

Condition	Private standards (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	Commercial standards (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Possible reductions in the non-driving seizure-free periods for a conditional licence (cont'd)		
'Safe' seizures These are defined as seizures that do not impair driving ability (which requires consciousness and ability to control the vehicle at all times). Normal responsiveness must have been tested by reliable witnesses or during video-EEG.	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: • 'safe' seizures have been present for at least **two years**; **and** • there have been no seizures of other type for at least **two years**; **and** • the person follows medical advice, including adherence to medication if prescribed, or recommended. If the above criteria are not met, the default standard applies.	There is no reduction. The default standard applies.
Sleep-only seizures: Seizures occurring only during sleep.	A **conditional licence** may be considered by the driver licensing authority, despite continuing seizures only during sleep and subject to at least **annual review**, taking into account information provided by the **treating doctor** as to whether the following criteria are met: • there have been no previous seizures while awake; **and** • the first sleep-only seizure was at least **12 months** ago; **and** • the person follows medical advice, including adherence to medication if prescribed, or recommended. **OR** • there have been previous seizures while awake but not in the preceding **two years**; **and** • sleep-only seizures have been occurring for at least **two years**; **and** • the person follows medical advice, including adherence to medication if prescribed, or recommended. If the above criteria are not met, the default standard applies.	There is no reduction. The default standard applies.

Medical standards for licensing – Seizures and epilepsy

Step 1: Read 'All cases'. This applies to all people with seizures.

Step 2: Look through the list of situations in the left column to see if the person matches one of these situations. If so, the driver licensing authority may consider a conditional licence after a shorter (reduced) period of seizure freedom. Note that people are not eligible for a reduction if they have had a motor vehicle crash due to a seizure within the preceding 12 months. If withdrawal of all antiepileptic medication is planned, refer to the relevant section of the table.

Condition	Private standards (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	Commercial standards (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Possible reductions in the non-driving seizure-free periods for a conditional licence (cont'd)		
Seizures in a person under treatment whose epilepsy was previously well controlled 'Well controlled' is defined as: There were no seizures during the 12 months leading up to the last seizure.	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 seizure was caused by an identified provoking factor; **and** • the provoking factor can be reliably avoided; **and** • the provoking factor has not caused previous seizures; **and** • there have been no seizures for at least **four weeks**; **and** • the person follows medical advice, including adherence to medication (periodic serum drug level measurements may be required) **OR** • no cause for the seizure was identified; **and** • there have been no seizures for at least **three months**; **and** • the person follows medical advice, including adherence to medication. If the person has experienced one or more seizures during the **12 months** leading up to the last seizure, there is no reduction and the default standard applies.	There is no reduction. The default standard applies.
Exceptional cases	Where a medical specialist experienced in the management of epilepsy considers that a person with seizures or epilepsy does not meet the standards above for a conditional licence but may be safe to drive, a **conditional licence** may be considered by the driver licensing authority, subject to at least **annual review**: • if the driver licensing authority, after considering information provided by a specialist experienced in the management of epilepsy, considers that the risk of a crash caused by a seizure is acceptably low; **and** • the person follows medical advice, including adherence to medication if prescribed or recommended.	Where a specialist in epilepsy considers that a person with seizures or epilepsy does not meet the standards above for a conditional licence but may be safe to drive, a **conditional licence** may be considered by the driver licensing authority, subject to at least **annual review**: • if the driver licensing authority, after considering information provided by a specialist experienced in the management of epilepsy, considers that the risk of a crash caused by a seizure is acceptably low; **and** • the person follows medical advice, including adherence to medication if prescribed or recommended.

Medical standards for licensing – Seizures and epilepsy

Step 1: Read 'All cases'. This applies to all people with seizures.

Step 2: Look through the list of situations in the left column to see if the person matches one of these situations. If so, the driver licensing authority may consider a conditional licence after a shorter (reduced) period of seizure freedom. Note that people are not eligible for a reduction if they have had a motor vehicle crash due to a seizure within the preceding 12 months. If withdrawal of all antiepileptic medication is planned, refer to the relevant section of the table.

Condition	Private standards (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	Commercial standards (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Other factors that may influence licence status		
Epilepsy treated by surgery (where the primary goal of surgery is the elimination of epilepsy)	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 criterion is met: • there have been no seizures for at least **12 months** following surgery; **and** • the person follows medical advice with respect to medication adherence. The vision standard may also apply if there is a visual field defect. If medication is withdrawn, refer to Planned withdrawal of all anti-epileptic medication.	A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account information provided by a **specialist in epilepsy** as to whether the following criteria are met: • there have been no seizures for at least **10 years**; **and** • an EEG conducted in the last six months has shown no epileptiform activity and no other EEG conducted in the last 12 months has shown epileptiform activity; **and** • the person follows medical advice with respect to medication adherence. The vision standard may also apply if there is a visual field defect. If any anti-epileptic medication is to be withdrawn, the person will no longer meet the criteria to hold a conditional licence.
Medication noncompliance	Refer to text, page 88.	Refer to text, page 88.
Planned withdrawal of one or more anti-epileptic medications in a person who satisfies the standard to hold a conditional licence	The person should not drive: • during the period in which the dose is being tapered; **and** • for **three months** after the last dose. If seizures recur, the driver licensing authority may allow the person to resume driving on a **conditional licence** subject to at least **annual review**, taking into account information provided by the **treating doctor** as to whether the following criteria are met: • the previously effective medication regime is resumed; **and** • there have been no seizures for **four weeks** after resuming the medication regime; **and** • the person follows medical advice, including adherence to medication. If seizures do not recur, the person may become eligible for an unconditional licence (refer to Resumption of unconditional licence).	If anti-epileptic medication is to be withdrawn, the person will no longer meet the criteria to hold a conditional licence. Driving may continue only after consideration by the driver licensing authority under the Exceptional cases standard (page 92).

Medical standards for licensing – Seizures and epilepsy

Step 1: Read 'All cases'. This applies to all people with seizures.

Step 2: Look through the list of situations in the left column to see if the person matches one of these situations. If so, the driver licensing authority may consider a conditional licence after a shorter (reduced) period of seizure freedom. Note that people are not eligible for a reduction if they have had a motor vehicle crash due to a seizure within the preceding 12 months. If withdrawal of all antiepileptic medication is planned, refer to the relevant section of the table.

Condition	Private standards (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	Commercial standards (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Other factors that may influence licence status (cont'd)		
Recommended reduction in dosage of anti-epileptic medication in a person who satisfies the standard to hold a conditional licence	Driving may continue: • if the dose reduction is due only to the presence of current dose-related side effects and is unlikely to affect seizure control. In circumstances other than above, the person should not drive: • during the period in which the dose reduction is being made; **and** • for **3 months** after completion of the dose reduction. If seizures recur, the driver licensing authority may allow the person to resume driving on a **conditional licence** subject to at least **annual review**, taking into account information provided by the **treating doctor** as to whether the following criteria are met: • the previously effective medication dose is resumed; **and** • there have been no seizures for **4 weeks** after resuming the previously effective dose; **and** • the person follows medical advice, including adherence to medication.	Driving may continue: • if the dose reduction is due only to the presence of current dose-related side effects and is unlikely to result in a seizure. In circumstances other than the above, the person will no longer meet the criteria to hold a conditional licence.
Seizure causing a crash	If a person has experienced a crash or has lost control of the vehicle as a result of a seizure, the default seizure-free non-driving period applies, even if they fall into one of the seizure categories that allow a reduction.	If a person has experienced a crash or has lost control of the vehicle as a result of a seizure, the default seizure-free non-driving period applies, even if they fall into one of the seizure categories that allow a reduction.
Resumption of non-conditional licence	The driver licensing authority may consider granting an **unconditional licence**, taking into account information provided by the **treating doctor** as to whether the following criteria are met: • the person has had no seizures for at least **five years**; **and** • has taken no anti-epileptic medication for at least the preceding **12 months**.	Refer to the text on page 88. Resumption of an unconditional commercial licence will not be considered.

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

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6.3 Other neurological and neurodevelopmental conditions

6.3.1 General assessment and management guidelines

The person with a neurological condition should be examined to determine the impact on the functions required for safe driving as listed below. If the health professional is concerned about a person's ability to drive safely, the person may be referred for a driver assessment or for appropriate allied health assessment (Box 3) (refer also to Appendix 10: Specialist driver assessors).

Box 3: Checklist for neurological disorders

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

1. Are there significant impairments of any of the following?
   - Visuospatial perception
   - Insight
   - Judgement
   - Attention and concentration
   - Comprehension
   - Reaction time
   - Memory
   - Sensation
   - Muscle power
   - Coordination
2. Are the visual fields abnormal? (refer to section 10 Vision and eye disorders)
3. Have there been one or more seizures? (refer to section 6.2 Seizures and epilepsy)

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.

Aneurysms (unruptured intracranial aneurysms) and other vascular malformations

The risk of sudden severe haemorrhage from most unruptured intracranial aneurysms and vascular malformations is sufficiently low to allow unrestricted driving for private vehicle drivers. However, the person should not drive if they are at high risk of sudden symptomatic haemorrhage (e.g. giant (greater than 15 mm) aneurysms). Cavernomas frequently produce small asymptomatic haemorrhages that do not impair driving ability. However, if they produce a neurological deficit, the person should be assessed to determine if any of the functions listed above are impaired. Commercial vehicle drivers should be individually assessed for suitability for a conditional licence.

If treated surgically, the advice regarding intracranial surgery applies (refer below). If the person has had a seizure, the seizures and epilepsy standards also apply (refer to section 6.2 Seizures and epilepsy).

Cerebral palsy

Cerebral palsy may impair driving ability because of difficulty with motor control or if it is associated with intellectual impairment. A practical driver assessment may be required (refer to Part A section 2.3.1 Practical driver assessments). As the disorder is usually static, periodic review is not normally required.

Head Injury

A head injury will only affect driver licensing if it results in chronic impairment or seizures. However, any person who has had a traumatic injury causing loss of consciousness should not drive for a minimum of 24 hours, and the effects on functions listed above should be monitored. This is advisory and not a licensing matter.

Minor head injuries involving a loss of consciousness of less than one minute with no complications do not usually result in any long-term impairment. Similarly, immediate seizures that occur within 24 hours of a head injury are not considered to be epilepsy but part of the acute process, (refer to Acute symptomatic seizures, page 86).

More significant head injuries may impair any of the neurological functions listed in the checklist above and can impair long-term driving ability. There may be focal neurological injury affecting motor or sensory tracts as well as the cranial nerves. Also personality or behavioural changes may affect judgement and tolerance and be associated with a psychiatric disorder such as depression or post-traumatic stress disorder (PTSD). Clinical, neuropsychological or practical driver assessments may be helpful in determining fitness to drive (refer to Part A section 2.3.1 Practical driver assessments). Comorbidities such as drug or alcohol misuse and musculoskeletal injuries may also need to be considered (refer to section 9 Substance misuse and section 5 Musculoskeletal conditions).

Neurological recovery from a traumatic brain injury may occur over a long period, and some people who are initially unfit may recover sufficiently over many months such that driving can eventually be resumed.

Risk of post-traumatic epilepsy (PTE): Persons with depressed skull fractures, traumatic intracranial haematoma or severe traumatic brain injury are at increased risk of epilepsy, especially in the first year. Commercial drivers therefore should not drive for 12 months after the injury and require a conditional licence. Private driving may continue, provided the person otherwise meets the standard to drive (refer to table – Head Injury). If one or more seizures have occurred, the symptomatic seizures standard applies. PTE should be distinguished from immediate post-traumatic (acute symptomatic) seizures occurring within 24 hours of a head injury, which are considered part of the acute process (refer to Acute symptomatic seizures, page 86).

Intracranial surgery (advisory only; non-driving periods may be varied by the neurosurgeon)

Non-driving periods are advised to allow for the risk of seizures occurring after certain types of intracranial surgery. Following supratentorial surgery or surgery requiring retraction of the cerebral hemispheres, the person generally should not drive a private vehicle for six months and a commercial vehicle for 12 months. Notification to the driver licensing authority is not required. There is no specific restriction after infratentorial or trans-sphenoidal surgery.

If one or more seizures occur, the standards for seizures and epilepsy apply (refer to section 6.2 Seizures and epilepsy), and the driver should notify the driver licensing authority. Similarly, if there is long-term impairment of any of the functions listed in Box 3, fitness to drive will need to be assessed (refer to section 6.3 Other neurological and neurodevelopmental conditions).

Ménière's disease

Ménière's disease may be accompanied by acute vertigo, which can affect driving. However, attacks are usually accompanied by a prodrome of fullness in the ear, which gives sufficient warning to cease driving. Drivers, particularly commercial vehicle drivers, warrant individual assessment by an ENT specialist regarding their ability to respond in a timely manner to an attack. Such commercial drivers need also to meet the hearing standard (refer to section 4 Hearing loss and deafness).

Multiple sclerosis

Multiple sclerosis may produce a wide range of neurological deficits that may be temporary or permanent. Possible deficits that may impair safe driving include all of those listed in Box 3. Vehicle modifications may be made to assist with some of these impairments; the advice of an occupational therapist may be helpful in this regard (refer to Part A section 2.3.1 Practical driver assessments).

Neuromuscular disorders

Neuromuscular disorders include diseases of the peripheral nerves, muscles or neuromuscular junction. Peripheral neuropathy may impair driving due to difficulties with sensation (particularly proprioception) or from severe weakness. Disorders of the muscles or neuromuscular junction may also interfere with the ability to control a vehicle. A practical driver assessment may be required (refer to Part A section 2.3.1 Practical driver assessments).

Parkinson's disease

Parkinson's disease is a common, progressive disease that may affect driving in advanced stages[2] due to its motor manifestations (bradykinesia and rigidity) or cognitive impairments (deficits in executive function and memory and visuospatial difficulties).[3] There may also be disturbances of sleep, with episodes of sleepiness when driving. When assessing the response to treatment, the response over the whole dose cycle should be taken into account (e.g. in patients with motor fluctuations, it would not be appropriate to assesses fitness to drive only on the basis of the best 'on' response). Most patients with severe fluctuations will be unfit to drive. A practical driver assessment may be required (refer to Part A section 2.3.1 Practical driver assessments).

Stroke (cerebral infarction or intracerebral haemorrhage)

Stroke may impair driving ability either because of the long-term neurological deficit it produces or because of risk of a recurrent stroke or transient ischaemic attack (TIA) at the wheel of a vehicle (refer below).

Stroke and TIA rarely produce loss of consciousness; it is very uncommon for undiagnosed strokes or TIA to result in motor vehicle crashes. When they do, it is usually due to an unrecognised visual field deficit.

The risk of recurrent stroke is probably highest in the first month after the initial stroke but is still sufficiently low (about 10 per cent in the first year) that it does not on its own require suspension of driving. However, fatigue and impairments in concentration and attention are common after stroke (even in those with no persisting neurological deficits) and may impair the ability to perform the driving task, particularly for commercial vehicle drivers. For this reason, there should be a non-driving period after stroke (four weeks for private drivers and three months for commercial drivers), even in those with no detectable persisting neurological deficit.

For those with a persistent neurological deficit, subsequent driving fitness will depend on the extent of impairment of the functions listed in Box 3. A practical driver assessment may be required (refer to Part A section 2.3.1 Practical driver assessments). While many people

with mild stroke are independent in many activities of daily living, they may have ongoing aphasia (comprehension of written and spoken language) which may impact on fitness to drive. The vision standard may also apply (refer to section 10 Vision and eye disorders). If the person has had a seizure, the seizures and epilepsy standards also apply (refer to section 6.2 Seizures and epilepsy).

Private vehicle drivers who have made a full neurological recovery do not require a conditional licence. Patients should be encouraged to comply with stroke prevention therapy.

Treatable causes of stroke, such as high blood pressure, atrial fibrillation or carotid stenosis, should be managed with reference to this standard.

Transient ischaemic attack (TIA) (advisory)

TIAs can be single or recurrent and may be followed by stroke. They may impair driving ability if they occur at the wheel of a motor vehicle. However, as a TIA rarely produces loss of consciousness, it is an extremely uncommon cause of crashes. The risk of a further TIA or stroke is about 15 per cent in the first three months and about half of that risk occurs in the first week. In view of the low risk of TIA or stroke affecting driving, private vehicle drivers should not drive for two weeks, and commercial vehicle drivers should not drive for four weeks after a TIA. A conditional licence is not required because there is no long-term impairment (refer to Part A section 2.2.3 Temporary conditions).

Subarachnoid haemorrhage

Driving should be restricted if the person has had a subarachnoid haemorrhage. A conditional licence may be considered after a minimum three-month non-driving period for private vehicle drivers and after at least six months for commercial vehicle drivers, taking into account the presence of neurological disabilities as described in Box 3. The vision standard may also apply (refer to section 10 Vision and eye disorders). If the person has had one or more seizures, the seizures and epilepsy standards also apply (refer to section 6.2 Seizures and epilepsy). If a craniotomy has been performed, the advice for intracranial surgery also applies (refer to page 102). A practical driver assessment may be considered (refer to Part A section 2.3.1 Practical driver assessments).

Space-occupying lesions including brain tumours

Brain tumours and other space-occupying lesions (e.g. abscesses, chronic subdural haematomas, cysticercosis) may cause diverse effects depending on their location and type. They may impair any of the neurological functions listed in Box 3. If the person has had one or more seizures, the seizures and epilepsy standards also apply (refer to section 6.2 Seizures and epilepsy). If a craniotomy has been performed, the advice regarding intracranial surgery also applies (refer to page 102).

Other neurological conditions including developmental and intellectual disability

The impact of other neurological conditions including developmental and intellectual disability should be assessed individually. A practical driver assessment may be required. If the degree of impairment is static, periodic review is not usually required.

6.3.2 Medical standards for licensing

Requirements for unconditional and conditional licences are outlined in the table on page 100 including standards for:

- aneurysms (unruptured intracranial aneurysms) and other vascular malformations
- cerebral palsy
- head injury
- intracranial surgery
- multiple sclerosis
- neuromuscular conditions
- Parkinson's disease
- stroke
- transient ischaemic attacks
- space-occupying lesions including brain tumours
- subarachnoid haemorrhage
- other neurological conditions including developmental and intellectual disability.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Neurological conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Aneurysms (unruptured intracranial aneurysms) and other vascular malformations of the brain **Refer also to subarachnoid haemorrhage, page 105.**	A person is **not** fit to hold an **unconditional licence**: • if the person has an unruptured intracranial aneurysm or other vascular malformation at high risk of major symptomatic haemorrhage. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by an **appropriate specialist** regarding: • the response to treatment. If treated surgically, the intracranial surgery advice applies (page 102). If the person has had a seizure, the seizure and epilepsy standards apply (refer to section 6.2 Seizures and epilepsy)	A person is **not** fit to hold an **unconditional licence**: • if the person has an unruptured intracranial aneurysm or other vascular malformation. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by an **appropriate specialist** regarding: • the risk of major symptomatic haemorrhage; **and** • the response to treatment. If treated surgically, the intracranial surgery advice applies (page 102). If the person has had a seizure, the seizure and epilepsy standards apply (refer to section 6.2 Seizures and epilepsy).
Cerebral palsy **Refer also to neuromuscular, page 103 and/or intellectual disability, page 105.**	A person is **not** fit to hold an **unconditional licence**: • if the person has cerebral palsy producing significant impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, sensation, muscle power, coordination, vision (including visual fields). A **conditional licence** may be considered by the driver licensing authority, taking into account: • the nature of the driving task; • information provided by the **treating doctor** regarding the likely impact of the neurological impairment on driving ability; • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments); **and** • the need for vehicle modifications. Periodic review is not required if the condition is static.	A person is **not** fit to hold an **unconditional licence**: • if the person has cerebral palsy producing significant impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, sensation, muscle power, coordination, vision (including visual fields). A **conditional licence** may be considered by the driver licensing authority, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** regarding the likely impact of the neurological impairment on driving ability; • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments); **and** • the need for vehicle modifications. Periodic review is not required if the condition is static.

Medical standards for licensing – Neurological conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Head injury **Refer also to intracranial surgery, below.**	A person is **not** fit to hold an **unconditional licence**: • if the person has had head injury producing significant impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination, vision (including visual fields). A **conditional licence** may be considered by the driver licensing authority, taking into account: • the nature of the driving task; • information provided by the **treating doctor** regarding the likely impact of the neurological impairment on driving ability and the presence of other disabilities that may impair driving as per this publication; • the results of neuropsychological testing if indicated; **and** • the results of a practical driver assessment if required. Periodic review is not required if the condition is static. If a seizure has occurred, refer to section 6.2 Seizures and epilepsy.	A person is **not** fit to hold an **unconditional licence**: • if the person has had head injury producing significant impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination, vision (including visual fields). A **conditional licence** may be considered by the driver licensing authority, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** regarding the likely impact of the neurological impairment on driving ability and the presence of other disabilities that may impair driving as per this publication; • the results of neuropsychological testing if indicated; **and** • the results of a practical driver assessment if required. Periodic review is not required if the condition is static. A person is **not** fit to hold an **unconditional licence**: • if they have a high risk of post-traumatic epilepsy (penetrating brain injury, brain contusion, subdural haematoma, loss of consciousness/ alteration of consciousness or post traumatic amnesia greater than 24 hours). 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 had no seizures for at least **12 months**. If a seizure has occurred, refer to section 6.2 Seizures and epilepsy.

Medical standards for licensing – Neurological conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Intracranial surgery (advisory only)	**A person should not drive for six months following supratentorial surgery or retraction of the cerebral hemispheres.** If there are seizures or long-term neurological deficits, refer to section 6.2 Seizures and epilepsy.	**A person should not drive for 12 months following supratentorial surgery or retraction of the cerebral hemispheres.** If there are seizures or long-term neurological deficits, refer to section 6.2 Seizures and epilepsy.
Ménière's disease Refer text	Refer to text.	A person requires individualised assessment by an ENT specialist.
Multiple sclerosis	A person is **not** fit to hold an **unconditional licence**: • if the person has multiple sclerosis and significant impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination, vision (including visual fields). A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by the **treating doctor** regarding the likely impact of the neurological impairment on driving ability; • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments); **and** • the need for vehicle modification.	A person is **not** fit to hold an **unconditional licence**: • if the person has multiple sclerosis. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** regarding the level of impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination, vision (including visual fields), and the likely impact on driving ability; • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments); **and** • the need for vehicle modification.

Medical standards for licensing – Neurological conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Neuromuscular conditions **(peripheral neuropathy, muscular dystrophy, etc.)**	A person is **not** fit to hold an **unconditional licence**: • if the person has peripheral neuropathy, muscular dystrophy or any other neuromuscular disorder that significantly impairs muscle power, sensation or coordination. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by the **treating doctor** regarding the likely impact of the impairment on driving ability; • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments); **and** • the need for vehicle modification.	A person is **not** fit to hold an **unconditional licence**: • if the person has peripheral neuropathy, muscular dystrophy or any other neuromuscular disorder that significantly impairs muscle power, sensation or coordination. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** regarding the likely impact of the impairment on driving ability; • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments); **and** • the need for vehicle modification.
Parkinson's disease	A person is **not** fit to hold an **unconditional licence**: • if the person has Parkinson's disease with significant impairment of movement or reaction time or the onset of dementia. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by the **treating doctor** regarding the likely impact of the neurological impairment on driving ability and the response to treatment; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments).	A person is **not** fit to hold an **unconditional licence**. • if the person has Parkinson's disease. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** regarding the likely impact of the neurological impairment on driving ability and the response to treatment; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments).

Medical standards for licensing – Neurological conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Stroke **(cerebral infarction or intracerebral haemorrhage)**	**A person should not drive for at least four weeks following a stroke.** **Treatable causes of stroke should be identified and managed with reference to this standard.** The driver licensing authority may consider a return to driving on an **unconditional licence**, after at least **four weeks**, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** regarding the level of impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination, vision (including visual fields); and the likely impact on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A, section 2.3.1 Practical driver assessments). The person does not require a conditional licence.	**A person should not drive for at least three months following a stroke.** **Treatable causes of stroke should be identified and managed with reference to this standard.** A person is **not** fit to hold an **unconditional licence**: • if the person has had a stroke. A **conditional licence** may be considered by the driver licensing authority after at least **three months** and subject to at least **annual review**, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** regarding the level of impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination, vision (including visual fields) and the likely impact on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments).
Transient ischaemic attack **(advisory only)**	**A person should not drive for at least two weeks following a TIA.** A conditional licence is not required.	**A person should not drive for at least four weeks following a TIA.** A conditional licence is not required.
Space-occupying lesions (including brain tumours) **Refer also to intracranial surgery, page 102.**	A person is **not** fit to hold an **unconditional licence**: • if the person has had a space-occupying lesion that results in significant impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination and vision (including visual fields). A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account: • the nature of the driving task; • information provided by the **treating doctor** about the likely impact of the neurological impairment on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments).	A person is **not** fit to hold an **unconditional licence**: • if the person has had a space-occupying lesion. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** about the level of impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination and vision (including visual fields), and the likely impact on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments).

Medical standards for licensing – Neurological conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Space-occupying lesions (including brain tumours) **(cont'd)**	If seizures occur, the standards for seizures and epilepsy apply (refer to section 6.2 Seizures and epilepsy). If surgically treated, the advice for intracranial surgery applies (page 102).	If seizures occur, the standards for seizures and epilepsy apply (refer to section 6.2 Seizures and epilepsy). If surgically treated, the advice for intracranial surgery applies (page 102).
Subarachnoid haemorrhage **Refer also to aneurysms, page 100.**	**A person should not drive for at least three months after a subarachnoid haemorrhage.** A person is **not** fit to hold an **unconditional licence**: • if the person has had a subarachnoid haemorrhage. A **conditional licence** may be considered by the driver licensing authority after **three months** and subject to **periodic review**, taking into account: • the nature of the driving task; • information provided by the **treating doctor** about the level of impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination and vision (including visual fields), and the likely impact on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments).	**A person should not drive for at least six months after a subarachnoid haemorrhage.** A person is **not** fit to hold an **unconditional licence**: • if the person has had a subarachnoid haemorrhage. A **conditional licence** may be considered by the driver licensing authority, after **six months** and subject to **periodic review**, taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** about the level of impairment of any of the following: visuospatial perception, insight, judgement, attention, comprehension, reaction time, memory, sensation, muscle power, coordination and vision (including visual fields), and the likely impact on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments).
Other neurological conditions including developmental and intellectual disability	A person is **not** fit to hold an **unconditional licence**: • if the person has a neurological disorder that significantly impairs any of the following: visuospatial perception, insight, judgement, behaviour, attention, comprehension, reaction time, memory, sensation, muscle power, coordination and vision (including visual fields). A **conditional licence** may be considered by the driver licensing authority subject to **periodic review,*** taking into account: • the nature of the driving task; • information provided by the **treating doctor** about the likely impact of the neurological impairment on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments). * Periodic review may not be necessary if the condition is static.	A person is **not** fit to hold an **unconditional licence**: • if the person has a neurological disorder that significantly impairs any of the following: visuospatial perception, insight, judgement, behaviour, attention, comprehension, reaction time, memory, sensation, muscle power, coordination and vision (including visual fields). A **conditional licence** may be considered by the driver licensing authority subject to **periodic review,*** taking into account: • the nature of the driving task; • information provided by an **appropriate specialist** about the likely impact of the neurological impairment on driving ability; **and** • the results of a practical driver assessment if required (refer to Part A section 2.3.1 Practical driver assessments). * Periodic review may not be necessary if the condition is static.

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

References and further reading

1. Monash University Accident Research Centre. Influence of chronic illness on crash involvement of motor vehicle drivers, 2nd edition, November 2010. Available: http://monashuniversity.mobi/muarc/reports/muarc300.html.
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7. Psychiatric conditions

Refer also to section 6 Neurological conditions and section 9 Substance misuse.

Psychiatric conditions encompass a range of cognitive, emotional and behavioural conditions such as schizophrenia, depression, anxiety disorders and personality disorders. They also include dementia and substance abuse conditions, which are addressed elsewhere in the standards (refer to section 6.1 Dementia and section 9 Substance misuse).

7.1 Relevance to the driving task

7.1.1 Effects of psychiatric conditions on driving[1]

Psychiatric conditions may be associated with disturbances of behaviour, cognitive abilities and perception and therefore have the potential to affect driving ability. They do, however, differ considerably in their aetiology, symptoms and severity, and may be occasional or persistent. The impact of mental illness also varies depending on a person's social circumstances, occupation and coping strategies. Assessment of fitness to drive must therefore be individualised and should rely on evaluation of the specific pattern of illness and potential impairments as well as severity, rather than the diagnosis per se. The range of potential impairments for various conditions is described below.

People with **schizophrenia** may have impairments across many domains of cognitive function including:

- reduced ability to sustain concentration or attention
- reduced cognitive and perceptual processing speeds, including reaction time
- reduced ability to perform in complex conditions, such as when there are multiple distractions
- perceptual abnormalities, such as hallucinations that distract attention or are preoccupying
- delusional beliefs that interfere with driving; for example, persecutory beliefs may include being followed and result in erratic driving, or grandiose beliefs may result in extreme risk taking.

People with **bipolar affective condition** may demonstrate:

- depression and suicidal ideation
- mania or hypomania, with impaired judgement about driving skill and associated recklessness, and/or
- delusional beliefs that directly affect driving.

People with **depression** may demonstrate:

- disturbances in attention, information processing and judgement, including reduced ability to anticipate
- psychomotor retardation and reduced reaction times
- sleep disturbances and fatigue, and/or
- suicidal ideation that may manifest in reckless driving.

People with **anxiety conditions** (including post-traumatic stress disorder) may:

- be preoccupied or distractible, and/or
- experience panic attacks or obsessional behaviours that may impair driving.

People with **personality conditions** may be:

- aggressive or impulsive, and/or
- resentful of authority or reckless.

These impairments are difficult to determine because impairment differs at various phases of the illness and may vary markedly between individuals. The impairments described above are particularly important for commercial vehicle drivers.

7.1.2 Evidence of crash risk[1]

There is limited evidence regarding the impact of psychiatric illness on crash risk. Some studies have shown that drivers with psychiatric illness have an increased crash risk compared with drivers without psychiatric illness. There is also specific evidence for increased risk among those with schizophrenia and personality conditions. The evidence suggests a modestly elevated risk for people with low levels of impairment; however, it is possible that people with higher levels of impairment self-regulate their driving or drive more slowly and cautiously, thus reducing their risk.

7.1.3 Impairments associated with medication

Medications prescribed for treating psychiatric conditions may impair driving performance. There is, however, little evidence that medication, if taken as prescribed, contributes to crashes; in fact, it may even help reduce the risk of a crash (refer to Part A section 2.2.8 Drugs and driving). Numerous psychotropic medications have been shown to impair perception, vigilance and psychomotor skills. Many medications can produce side effects such as sedation, lethargy, impaired psychomotor function and sleep disturbance. Benzodiazepines have especially been shown to impair vision, attention, information processing, memory, motor coordination and combined-skill tasks. Tolerance to the sedating effects may develop after the first few weeks, although other cognitive impairments may persist. The assessment of medication effects should be individualised and rely upon self-report, observation, clinical assessment and collateral information to determine if particular medications might affect driving. Health professionals should have heightened concern when sedative medications are prescribed but should also consider the need to treat psychiatric conditions effectively. Refer also to section 9 Substance misuse.

7.2 General assessment and management guidelines

7.2.1 General considerations

In assessing the impact of mental illness on the ability to drive safely, the focus should be on assessing the severity and significance of likely functional effects, rather than the simple diagnosis of a mental illness. Information relevant to the assessment may be gained from case workers and others involved in the ongoing management of the person. The review period should be tailored to the likely prognosis or pattern of progression of the condition in an individual. Commercial vehicle licences warrant greater concern and a lower threshold for intervention.

Mild mental illness does not usually have a significant impact on functioning. Moderate levels of mental illness commonly affect functioning, but many people will be able to manage usual activities, often with some modification. Severe mental illness often impairs multiple domains of functioning, and it is this category that is most likely to impact on the functions and abilities required for safe driving. A person's medication requirements should not be used as the only measure of disease severity.

7.2.2 Mental state examination

The mental state examination (MSE) can be usefully applied in identifying areas of impairment that may affect fitness to drive:

- **Appearance.** Appearance is suggestive of general functioning (e.g. attention to personal hygiene, grooming, sedation, indications of substance use).
- **Attitude.** This may, for example, be described as cooperative, uncooperative, hostile, guarded or suspicious. While subjective, it helps to evaluate the quality of information gained in the rest of the assessment and may reflect personality attributes.
- **Behaviour.** This may include observation of specific behaviours or general functioning including ability to function in normal work and social environments.
- **Mood and affect.** This includes elevated mood (increase in risk taking) and low mood (suicidal ideation, particularly if past attempts, current ideation or future plans involve driving vehicles). Suicide involving motor vehicles is relatively common.
- **Thought form, stream and content.** This relates to the logic, quantity, flow and subject of thoughts that may be affected by mania, depression, schizophrenia or dementia. Delusions with specific related content may impact on driving ability.
- **Perception.** This relates to the presence of disturbances, such as hallucinations, that may interfere with attention or concentration, or may influence behaviour.
- **Cognition.** This relates to alertness, orientation, attention, memory, visuospatial functioning, language functions and executive functions. Evidence from formal testing, screening tests and observations related to adaptive functioning may be sought to determine if a psychiatric disorder is associated with deficits in these areas that are relevant to driving.
- **Insight.** Insight relates to self-awareness of the effects of the condition on behaviour and thinking. Assessment requires exploration of the person's awareness of the nature and impacts of their condition and has major implications for management.
- **Judgement.** The person's ability to make sound and responsible decisions has obvious implications for road safety. As judgement may vary, it should not be assessed in a single consultation.

7.2.3 Treatment

The effects of prescribed medication should also be considered for the individual including:

- how medication may help to control or overcome aspects of the condition that may impact on driving safety
- what medication side effects may affect driving ability including risk of sedation, impaired reaction time, impaired motor skills, blurred vision, hypotension or dizziness.

Alternative treatments including 'talking therapies' may be useful as an alternative or supplement to medication and lessen the risk of medication affecting driving.

7.2.4 Substance abuse (refer also to section 9 Substance misuse)

People with a 'dual diagnosis' of a psychiatric condition and drug or alcohol abuse are likely to be at higher risk and warrant careful consideration. The assessment should seek to identify the potential relevance of:

- problematic alcohol consumption
- use of illicit substances
- prescription drug abuse (e.g. increased use of benzodiazepines, sedatives or painkillers).

7.2.5 Insight

The presence or absence of insight has implications for management.

- The person with insight may recognise when they are unwell and self-limit their driving.
- Limited insight may be associated with reduced awareness or deficits and may result in markedly impaired judgement or self-appraisal.
- When the person exhibits significantly impaired insight and appears unwilling to accept advice about restricting their driving, the health professional should consider if it is appropriate to report directly to the driver licensing authority and, if so, determine how best such a notification can be made while continuing to engage the person in treatment that is beneficial to them. Refer to Part A section 3.3.1 Confidentiality, privacy and reporting to the driver licensing authority and Appendix 3.2: Legislation relating to reporting by health professionals.

7.2.6 Acute psychotic episodes

A person suffering an acute episode of mental illness (e.g. psychosis, moderate–severe depression or mania) may pose a significant risk. The health professional should advise a person in this situation not to drive until their condition has stabilised and a decision can be made regarding their future licence status. This is particularly relevant to commercial vehicle drivers.

7.2.7 Severe chronic conditions

A person with a severe chronic or relapsing psychiatric condition needs to be assessed regarding the effect of the illness on impairment and the skills needed to drive and the impairments that may arise. This may include a clinical assessment (e.g. neuropsychological) and may also include an on-road driving assessment (refer to Part A section 2.3.1 Practical driver assessments).

7.2.8 Personality disorders

People with some personality conditions may display aggressive, irresponsible or erratic behaviour. Such people may benefit from psychiatric interventions. Their licence status may also need to be managed through administrative, police or legal channels.

7.2.9 Post Traumatic Stress Disorder (PTSD).

PTSD may arise following motor vehicle crashes. Return to safe, competent driving may be assisted by therapy such as cognitive behaviour therapy, and by driving rehabilitation courses.

7.2.10 Other psychiatric conditions

Specialist advice may need to be sought regarding drivers who have conditions such as attention deficit hyperactivity disorder (ADHD) or, if a person is prescribed stimulants (e.g. dexamphetamine) for treating ADHD, this should be stated in the advice provided to the driver licensing authority, in case the person is subject to drug testing when driving in the future.

Where a psychiatric condition is associated with epilepsy or illicit drug use, the relevant section should also be referred to.

7.3 Medical standards for licensing

Requirements for unconditional and conditional licences are outlined in the following table.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Psychiatric conditions		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Psychiatric conditions	A person is **not** fit to hold an **unconditional licence**: • if the person has a chronic psychiatric condition of such severity that it is likely to impair insight, behaviour, cognitive ability or perception required for safe driving. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • the condition is well controlled and the person is compliant with treatment over a substantial period; **and** • the person has insight into the potential effects of their condition on safe driving; **and** • there are no adverse medication effects that may impair their capacity for safe driving; **and** • the impact of comorbidities has been considered (e.g. substance abuse).	A person is **not** fit to hold an **unconditional licence**: • if the person has a chronic psychiatric condition of such severity that is likely to impair behaviour, cognitive ability or perception required for safe driving. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by a **psychiatrist** as to whether the following criteria are met: • the condition is well controlled and the person is compliant with treatment over a substantial period; **and** • the person has insight into the potential effects of their condition on safe driving; **and** • there are no adverse medication effects that may impair their capacity for safe driving; **and** • the impact of comorbidities has been considered (e.g. substance abuse).

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

References and further reading

1. Monash University Accident Research Centre. Influence of chronic illness on crash involvement of motor vehicle drivers, 2nd edition, November 2010. Available: http://monashuniversity.mobi/muarc/reports/muarc300.html.

8. Sleep disorders

Refer also to section 1 Blackouts.

8.1 Relevance to the driving task

8.1.1 Evidence of crash risk[1]

Studies have shown an increased rate of motor vehicle crashes of between two and seven times that of control subjects in those with sleep apnoea. Studies have also demonstrated increased objectively measured sleepiness while driving (electro-encephalography and eye closure measurements) and impaired driving-simulator performance in people with confirmed sleep apnoea. This performance impairment is similar to that seen due to illegal alcohol impairment or sleep deprivation. Drivers with severe sleep disordered breathing (respiratory disturbance index greater than 34) may have a higher rate of crashes than those with a less severe sleep disorder.

Those with narcolepsy perform worse on simulated driving tasks and are more likely to have vehicle crashes than control subjects.

In commercial vehicle drivers fatigue from sleep deprivation due to shift work also contributes to the risk of a crash. Fatigue should be managed as per the *NTC Guidelines for Managing Heavy Vehicle Driver Fatigue* (refer to <www.ntc.gov.au>).

8.1.2 Impact of treatment on crash risk[2]

Treatment of obstructive sleep apnoea with nasal continuous positive airways pressure (CPAP) has been shown to reduce daytime sleepiness and reduce the risk of crashes to the same level as controls. CPAP has also been shown to improve driving-simulator performance to the same levels as the control group. When used to treat obstructive sleep apnoea, mandibular advancement splints reduce daytime sleepiness and improve vigilance; however, studies have not been performed to assess whether they reduce motor vehicle crash rates.

8.2 General assessment and management guidelines

8.2.1 General considerations

Excessive daytime sleepiness, which manifests itself as a tendency to doze at inappropriate times when intending to stay awake, can arise from many causes and is associated with an increased risk of motor vehicle crashes.[3–7] It is important to distinguish sleepiness (the tendency to fall asleep) from fatigue or tiredness that is not associated with a tendency to fall asleep. Many chronic illnesses cause fatigue without increased sleepiness.

Increased sleepiness during the daytime in otherwise normal people may be due to prior sleep deprivation (restricting the time for sleep), poor sleep hygiene habits, irregular sleep–wake schedules or the influence of sedative medications, including alcohol. Insufficient sleep (less than five hours) prior to driving is strongly related to motor vehicle crash risk.[3] Excessive daytime sleepiness may also result from a number of medical sleep disorders including the sleep apnoea syndromes (obstructive sleep apnoea, central sleep apnoea and nocturnal hypoventilation), periodic limb movement disorder, circadian rhythm disturbances (e.g. advanced or delayed sleep phase syndrome), some forms of insomnia and narcolepsy.

Unexplained episodes of 'sleepiness' may also require consideration of the several causes of blackouts (refer to section 1 Blackouts).

8.2.2 Identifying and managing people at high crash risk

Until the disorder is investigated, treated effectively and licence status determined, people should be advised to avoid or limit driving if they are sleepy, and not to drive if they are at high risk, particularly in the case of commercial vehicle drivers. High-risk people include:

- those who experience moderate to severe excessive daytime sleepiness (Epworth Sleepiness Scale score of 16–24)
- those with a history of frequent self-reported sleepiness while driving
- those who have had a motor vehicle crash caused by inattention or sleepiness.

People with these high-risk features have a significantly increased risk of sleepiness-related motor vehicle crashes (odds ratio 15:2). These people should be referred to a sleep disorders specialist, particularly in the case of commercial vehicle drivers. Driving limitations may include avoiding driving at night and after consuming alcohol or sedative drugs, and limiting continuous driving (e.g. to between 15 minutes to two hours depending on symptoms) until effective treatment is implemented – refer to section 8.2.5 Advice to patients.[8]

8.2.3 Sleep apnoea

Definitions and prevalence

Sleep apnoea is present on overnight monitoring in 9 per cent of adult women and 24 per cent of adult men. Sleep apnoea syndrome (excessive daytime sleepiness in combination with sleep apnoea on overnight monitoring) is present in 2 per cent of women and 4 per cent of men. Some studies suggest a higher prevalence in transport drivers.

Obstructive sleep apnoea (OSA) involves repetitive obstruction to the upper airway during sleep, caused by relaxation of the dilator muscles of the pharynx and tongue and/or narrowing of the upper airway, and resulting in cessation (apnoea) or reduction (hypopnoea) of breathing.

Central sleep apnoea refers to a similar pattern of cyclic apnoea or hypopnoeas caused by oscillating instability of respiratory neural drive, and not due to upper airways factors. This condition is less common than OSA and is associated with cardiac or neurological conditions. It may also be idiopathic. Hypoventilation associated with chronic obstructive pulmonary disease (COPD) or chronic neuromuscular conditions may also interfere with sleep quality causing excessive sleepiness.

Sleep apnoea assessment

Clinical features. Common clinical features of sleep apnoea include:

- habitual snoring during sleep
- witnessed apnoeic events (often in bed by a spouse/partner) or falling asleep inappropriately (particularly during non-stimulating activities such as watching television, sitting reading, travelling in a car, when talking with someone)
- feeling tired despite adequate time in bed.

Poor memory and concentration, morning headaches and insomnia may also be presenting features.

The condition is more common in men and with increasing age. Physical features commonly include obesity (BMI greater than 35), a thick neck (greater than 42 cm in men, greater than 41 cm in women) and a narrow oedematous ('crowded') oropharynx. The presence of type 2 diabetes and difficult-to-control high blood pressure should also increase the suspicion of sleep apnoea. However, the condition may be present without these features.[9]

Subjective measures of sleepiness.[10] Determining excessive daytime sleepiness is a clinical decision, which may be assisted with clinical tools. Subjective measures include tools such as the Epworth Sleepiness Scale (ESS) or equivalent. The responses to eight questions relating to the likelihood of falling asleep in certain situations are scored and summed. A score of 0–10 is within the normal range. Mild to moderate self-reported sleepiness (ESS score of 11–15) may be associated with a significant sleep disorder but only a small increase in crash risk.[5] Scores of 16–24 are consistent with moderate to severe excessive daytime sleepiness and are associated with an increased risk of sleepiness-related motor vehicle crashes (odds ratio 3:15). Such tests rely on honest completion by the driver, and there is evidence that incorrect reporting may occur in some settings.[11] The tools are therefore just one aspect of the comprehensive assessment.

A history of frequent self-reported sleepiness while driving or motor vehicle crashes caused by sleepiness also indicates a high risk of motor vehicle crashes (odds ratio 5:13).

Epworth Sleepiness Scale questions

How likely are you to doze off or fall asleep in the following situations?
(scored 0–3, where: 0 = never, 1 = slight chance, 2 = moderate chance, 3 = high chance of dozing)

	Score
1. Sitting and reading	☐
2. Watching TV	☐
3. Sitting, inactive in a public place (e.g. a theatre or meeting)	☐
4. As a passenger in a car for an hour without a break	☐
5. Lying down to rest in the afternoon when circumstances permit	☐
6. Sitting and talking to someone	☐
7. Sitting quietly after a lunch without alcohol	☐
8. In a car, while stopped for a few minutes in the traffic	☐
Total Score :	

Objective measures of sleepiness. Objective measures include the Maintenance of Wakefulness Test (MWT).[12] Excessive sleepiness on the MWT is related to impaired driving performance.

Screening tools, which combine questions and physical measurements (e.g. the Multivariate Apnoea Prediction Questionnaire), have been evaluated for screening people for sleep disorders in a clinic setting. Their efficacy for screening large general populations remains under evaluation.

Referral and management. People in whom sleep apnoea, chronic excessive sleepiness or another medical sleep disorder is suspected should be referred to a specialist sleep physician for further assessment, investigation with overnight polysomnography and management. Referral to a sleep specialist should also be considered for any person who has unexplained daytime sleepiness while driving, or who has been involved in a motor vehicle crash that may have been caused by sleepiness. Kits for home assessment are widely available.

A person found to be positive for moderate to severe OSA on polysomnography, but who denies symptoms and declines treatment, may be offered an MWT (the MWT should include a drug screen and utilise a 40-minute protocol). For those with a normal MWT, the driver licensing authority may consider a conditional licence without OSA treatment subject to review in one year.

Commercial vehicle drivers. Commercial vehicle drivers who are diagnosed with OSA syndrome and require treatment are required to have annual review by a sleep specialist to ensure that adequate treatment is maintained. For drivers who are treated with CPAP, it is recommended that they should use CPAP machines with a usage meter to allow objective assessment and recording of treatment compliance. An assessment of sleepiness should be made and an objective measurement of sleepiness should be considered (MWT), particularly if there is concern regarding persisting sleepiness or treatment compliance. Mandibular splints with a usage meter are also acceptable.[13]

8.2.4 Narcolepsy[14]

Narcolepsy is present in 0.05 per cent of the population and usually starts in the second or third decade of life. Sufferers present with excessive sleepiness and can have periods of sleep with little or no warning of sleep onset. Other symptoms include cataplexy, sleep paralysis and vivid hypnagogic hallucinations. The majority of sufferers are HLA-DR2 positive. There is a subgroup of individuals who are excessively sleepy but do not have all the diagnostic features of narcolepsy. Inadequate warning of oncoming sleep and cataplexy put drivers at high risk.

Diagnosis of narcolepsy is made on the combination of clinical features. HLA typing and a multiple sleep latency test (MSLT), with a diagnostic sleep study on the prior night to exclude other sleep disorders and aid interpretation of the MSLT.

Persons suspected of having narcolepsy should be referred to a sleep specialist or neurologist for assessment (including a MSLT) and management.

Sleepiness in narcolepsy can usually be managed effectively with scheduled naps and stimulant medication. Tricyclic antidepressants and monoamine oxidase (MAO) inhibitors are used to treat cataplexy. Commercial vehicle drivers on a conditional licence should have a review at least annually by their specialist.

8.2.5 Advice to patients

All patients suspected of having sleep apnoea or other sleep disorders should be warned about the potential effect on road safety. General advice may include:

- minimising unnecessary driving
- minimising driving at times when they would normally be asleep
- allowing adequate time for sleep and avoiding driving after having missed a large portion of their normal sleep
- avoiding alcohol and sedative medications
- avoiding using over-the-counter or other non-prescribed substances for maintaining wakefulness
- ensuring prescribed treatments are taken as required
- resting and limiting driving if they are sleepy
- heeding the advice of a passenger that the driver is dozing off.

It is the responsibility of the driver to avoid driving if they are sleepy, comply with treatment, maintain their treatment device, attend review appointments and honestly report their condition to their treating physician.

8.3 Medical standards for licensing

Requirements for unconditional and conditional licences are outlined in the following table.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Sleep disorders		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Sleep apnoea **(also see text)**	A person is **not** fit to hold an **unconditional licence**: • if the person has established sleep apnoea syndrome (sleep apnoea on a diagnostic sleep study and moderate to severe excessive daytime sleepiness*); **or** • if the person has frequent self-reported* episodes of sleepiness or drowsiness while driving; **or** • if the person has had motor vehicle crash/es caused by inattention or sleepiness; **or** • if the person, in opinion of the **treating doctor**, represents a significant driving risk as a result of a sleep disorder. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • the person is compliant with treatment; **and** • the response to treatment is satisfactory. * The treating doctor should not rely solely on subjective measures of sleepiness such as the ESS to rule out sleep apnoea. Refer to section 8.2.3.	A person is **not** fit to hold an **unconditional licence**: • if the person has established sleep apnoea syndrome (sleep apnoea on a diagnostic sleep study and moderate to severe excessive daytime sleepiness*); **or** • if the person has frequent self-reported* episodes of sleepiness or drowsiness while driving; **or** • if the person has had motor vehicle crash/es caused by inattention or sleepiness; **or** • if the person, in opinion of the **treating doctor**, represents a significant driving risk as a result of a sleep disorder. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by a **specialist in sleep disorders** as to whether the following criteria are met: • the person is compliant with treatment; **and** • the response to treatment is satisfactory. * The treating doctor should not rely solely on subjective measures of sleepiness such as the ESS to rule out sleep apnoea. Refer to section 8.2.3.
Narcolepsy	A person is **not** fit to hold an **unconditional licence**: • if narcolepsy is confirmed. A **conditional licence may** be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by a **specialist in sleep disorders** on the response to treatment.	A person is **not** fit to hold an **unconditional licence**: • if narcolepsy is confirmed. A **conditional licence** may be considered by the driver licensing authority subject to at least **annual review**, taking into account the nature of the driving task and information provided by a **specialist in sleep disorders** as to whether the following criteria are met: • cataplexy has not been a feature in the past; **and** • medication is taken regularly; **and** • there has been an absence of symptoms for **six months**; **and** • normal sleep latency present on MWT (on or off medication).

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

References and further reading

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9. Substance misuse

(including alcohol, illicit drugs and prescription drug misuse)

This chapter focuses mainly on regular heavy use of, and dependence on, alcohol and other substances (including illicit and prescription or over-the-counter drugs). The standards for licensing do not address acute intoxication, which is subject to drink-drug driving laws (refer to Appendix 4: Drivers' legal BAC limits) or to policies regarding random drug and alcohol testing within workplaces. However, it is possible for a long-term dependent person to be impaired due to both chronic use and recent consumption, and these risks are factors in considering the fitness to drive of such people. More information about acute intoxication and driving can be found on driver licensing authority websites.

Chronic misuse of alcohol and other substances can lead to a syndrome of dependence, characterised by several of the following features:

- tolerance, as defined by either a need for markedly increased amounts of the substance to achieve intoxication or desired effect, or a markedly diminished effect with continued use of the same amount of substance
- withdrawal, as manifested by either the characteristic withdrawal syndrome for the substance, or the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms
- the substance is often taken in larger amounts or over a longer period than was intended
- there is a persistent desire or unsuccessful efforts to cut down or control substance use
- a great deal of time is spent in activities to obtain the substance, use the substance or recover from its effects
- important social, occupational or recreational activities are given up or reduced because of substance use, and/or
- the substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g. continued drinking despite recognition that an ulcer was made worse by alcohol consumption).

9.1 Relevance to the driving task

9.1.1 Effects of long-term alcohol use and other substance use on driving[1–4]

Alcohol

Chronic heavy alcohol use carries a real risk of neurocognitive deficits relevant to driving capability including:

- short-term memory and learning impairments, which become more evident as the difficulty of the task increases
- impaired perceptual-motor speed
- impaired visual search and scanning strategies
- deficits in executive functions such as: mental flexibility and problem-solving skills; planning, organising and prioritising tasks; focusing attention, sustaining focus and shifting focus from one task to another; filtering out distractions; monitoring and regulating self-action; or impulsivity.

Long-term heavy alcohol use is also associated with various end-organ pathologies that may affect ability to drive, for example, Wernicke-Korsakoff syndrome or peripheral neuropathies experienced as numbness or paresthesia of the hands or feet. In the event of end-organ effects relevant to driving, the appropriate requirements should be applied as set out elsewhere in this publication.

Alcohol-dependent people may experience a withdrawal syndrome on cessation or significant reduction of intake, which carries some risk of generalised seizure (refer to Acute symptomatic seizures, pages 86 and 90), confusional states and hallucinations.

Other substances

Substances (prescribed, over-the-counter and illicit) are misused for their intoxicating, sedative or euphoric effects. Drivers under the influence of these drugs are more likely to behave in a manner incompatible with safe driving. This may involve, but not be limited to, risk taking, aggression, feelings of invulnerability, narrowed attention, altered arousal states and poor judgement.

Illicit substances are a heterogeneous group. Chronic effects of their use vary and are not as well understood as those of alcohol. Some evidence suggests cognitive impairment is associated with chronic stimulant, opioid and benzodiazepine use. Illicit substance users may be at risk of brain injury through hypoxic overdose, trauma or chronic illness.

End-organ damage, including cardiac, neurological and hepatic damage, may be associated with some forms of illicit substance use, particularly injection drug use. Cocaine and other stimulant misuse have been linked with cardiovascular pathology. In the event of end-organ effects relevant to driving, the appropriate requirements should be applied as set out elsewhere in this publication.

Withdrawal seizures may occur (refer to Acute symptomatic seizures, pages 86 and 90).

9.1.2 Evidence of crash risk[1,5–21]

Alcohol

The relationship between raised alcohol levels and crash risk is well established, and it has been estimated that driving while intoxicated contributes to 30–50 per cent of fatal crashes, 15–35 per cent of crashes involving injury and 10 per cent of crashes not involving injury.

Increasing levels of intoxication result in disproportionate increases in the risk of a motor vehicle crash. The first case-controlled study of collision risk showed that with a blood alcohol concentration (BAC) of 0.05 per cent (g/100 mL), a driver was twice as likely to be involved in a collision as someone with no alcohol; at 0.10 per cent a driver has five times the relative risk; and at 0.20, there is a 25 times greater risk of a collision.[7]

Less experienced drivers have alcohol-related crashes at lower BACs than more experienced drivers. For example, a study of single vehicle fatal collisions showed that a male driver in the first five years of driving is 17 times more likely to have a fatal collision if their BAC is 0.05–0.079 and risk increases exponentially with BAC.[8] This supports zero BAC for probationary drivers as mandated in our graduated licensing system. In the case of commercial vehicle drivers, 'zero' BAC is also mandated (refer to Appendix 4: Drivers' legal BAC limits). Inexperienced drivers need to be educated about the real risks associated with drinking and driving.

Individuals with alcohol dependency have approximately twice the risk of crash involvement as controls, possibly because they are more likely to drive while intoxicated despite prior convictions for drink-driving.

Drugs

There is limited evidence regarding crash risk and drug dependency. Approximately 13 per cent of fatal crashes are attributed to drug use. The risk is amplified with alcohol-drug and impairing drug-drug combinations.

Amphetamine-type stimulants are a particular hazard in the long-distance trucking industry. Stimulants are used to promote wakefulness but can result in rebound fatigue. An Australian study of responsibility for collision found amphetamine-type stimulants in 4.1 per cent of all fatally injured drivers and 23 per cent of fatally injured truck drivers. Low doses of stimulants improve reaction time and reduce fatigue but at a cost of poor road position, loss of attention to peripheral information, erratic driving, weaving, speeding, drifting off the road, increased risk taking and high speed collisions.[9–13]

Cannabis. Driving under the influence of cannabis is perceived by many as a low-risk activity[14] and is reported to be more common than driving under the influence of alcohol.[15,16] Cannabis users report frequently driving within an hour of smoking[17,18] and being told about the risks appears to have little impact.[19] The relationship between blood levels of tetrahydrocannabinol (THC) and crash risk is not as well understood as for other drugs because it has complex pharmacokinetics. However, just the presence of measureable levels of THC is associated with an increased crash risk.[20,21] An Australian study found that a driver was 6.6 times more likely to be responsible for a fatal crash risk at levels of THC 5 mg/mL or above compared with drug-free drivers (sex and age adjusted).

Cannabis use can lead to dependence syndrome, with well-documented withdrawal symptoms including restlessness, insomnia, anxiety, aggression, anorexia, muscle tremor and autonomic effects.[22] Adult lifetime prevalence rates suggest that 9 per cent of cannabis users develop cannabis dependence, with higher rates in young people.[23] Cannabis is the most common substance after alcohol for which admission for detoxification is sought. Acute cannabis consumption is associated with increased road trauma.[24,25] Chronic cannabis use is associated with cognitive decline,[26] although less is known about the implications for safe driving. Chronic cannabis users should be carefully assessed. On-road assessment may be required to determine fitness to drive.

Sedating drugs. This is a heterogeneous group that includes all the drugs that cause mental clouding, sleepiness and poor responsiveness to the environment. It includes the benzodiazepines, sedating antihistamines, sedating antidepressants and narcotic analgesics. There is specific data on driving risk for some substances and none for others. Practitioners should be aware of the implications of their prescribing on the ability of patients to drive safely.

There is an increased risk of personal injury crashes among drivers using anti-anxiety drugs compared with the rest of the population.[27] The risk is exacerbated by alcohol and other sedatives.[28] There is a hangover effect, and a small dose of any sedative the following day can potentiate the effect. A meta-analysis of more than 500 studies showed that the degree of impairment of driving skill was directly related to the serum level of each substance.[29] In Australian studies benzodiazepines are found in about 4 per cent of fatalities and 16 per cent of injured drivers. Ninety-eight per cent of the drivers who had diazepam at any level combined with alcohol at any level were responsible for the collision in which they were injured. In a study of drivers taken to hospital for treatment after a collision, 98 per cent of drivers who had a benzodiazepine at any level with alcohol at any level were responsible for the collision.[30]

9.1.3 Effects of alcohol or drugs on other diseases

People who are frequently intoxicated and who also suffer from certain other medical conditions are often unable to give their other medical problems the careful attention required, which has implications for safe driving.

Epilepsy

Many people with epilepsy are quite likely to have a seizure if they miss their prescribed medication even for a day or two, particularly when this omission is combined with inadequate rest, emotional turmoil, irregular meals and alcohol or other substances. Patients under treatment for any kind of epilepsy are not fit to drive any class of motor vehicle if they are frequently intoxicated.

Diabetes

People with insulin-dependent diabetes have a special problem when they are frequently intoxicated. Not only may they forget to inject their insulin at the proper time and in the proper quantity, but also their food intake can get out of balance with the insulin dosage. This may result in a hypoglycaemic reaction or the slow onset of diabetic coma.

9.2 General assessment and management guidelines

9.2.1 General considerations

Chronic misuse of drugs is incompatible with safe vehicle driving. Careful individual assessment must be made of drivers who misuse alcohol or other substances (prescribed or illicit). Substance misuse may not be confined to a single drug class, and people may use multiple substances in combination. In addition, people who misuse substances may change from one substance to another. Occasional use of these drugs also requires very careful assessment. In particular, the health professional should be satisfied that the use of these drugs is not going to affect a commercial vehicle driver in the performance of their duties.

During clinical assessment, patients may understate or deny substance use for fear of consequences of disclosure. The acute and chronic cognitive effects of some substance use also contribute to difficulty in obtaining an accurate history and identification of substance use. Assessment should therefore incorporate a range of indicators of substance use in addition to self-report.

Secondary opinion from an appropriate specialist, such as an addiction medicine specialist or addiction psychiatrist, may be necessary, and further assessment and/or ongoing biological monitoring (e.g. supervised drug screening) by the treating doctor may be indicated, including relevant investigations, particularly in the case of commercial vehicle drivers. In particular, people with combined substance use disorder and mental illness ('dual diagnosis') may have a level of complexity requiring specialist assessment.

9.2.2 Alcohol dependence

Screening tests may be useful for assessing alcohol dependence and other substance use disorders. For example, the Alcohol Use Disorders Identification Test (AUDIT) may be used to screen for alcohol dependence (refer below). The total maximum score is 40. A score of eight or more indicates a strong likelihood of hazardous or harmful alcohol consumption. Referral to an appropriate specialist, such as an addiction medicine specialist or addiction psychiatrist, should be considered, particularly in the case of commercial vehicle drivers. The AUDIT relies on accurate responses to the questionnaire and should be interpreted in the context of a global assessment that includes other clinical evidence. For more information about the AUDIT questionnaire, refer to <http://apps.who.int/iris/bitstream/10665/67205/1/WHO_MSD_MSB_01.6a.pdf>.

Alcohol ignition interlocks are devices that prevent a car starting if the driver has been drinking. All states and territories have alcohol interlock programs where a driver who has been convicted of specified drink-driving offences is subject to a licence condition that they only drive a motor vehicle with an alcohol interlock fitted. An alcohol interlock condition may be ordered by a court as part of the sentencing or the licence restoration process, or imposed by the driver licensing authority in some circumstances. Interlocks may also be used voluntarily by drivers who are found to have alcohol dependence. Programs vary between the states and territories. For more information see Appendix 5: Alcohol interlock programs.

The Alcohol Use Disorders Identification Test (AUDIT) questionnaire[7]

Please tick the answer that is correct for you.

Scoring:

(0)	(1)	(2)	(3)	(4)

1. **How often do you have a drink containing alcohol?**

   ☐ Never *(skip to Q9)* ☐ Monthly or less ☐ 2 to 4 times a month ☐ 2 to 3 times a week ☐ 4 or more times a week

2. **How many drinks containing alcohol do you have on a typical day when you are drinking?**

   ☐ 1 or 2 ☐ 3 or 4 ☐ 5 or 6 ☐ 7, 8 or 9 ☐ 10 or more

3. How often do you have six or more drinks on one occasion?

   ☐ Never ☐ Less than monthly ☐ Monthly ☐ Weekly ☐ Daily or almost daily

4. **How often during the last year have you found that you were not able to stop drinking once you had started?**

   ☐ Never ☐ Less than monthly ☐ Monthly ☐ Weekly ☐ Daily or almost daily)

5. **How often during the last year have you failed to do what was normally expected from you because of drinking?**

   ☐ Never ☐ Less than monthly ☐ Monthly ☐ Weekly ☐ Daily or almost daily

6. **How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?**

   ☐ Never ☐ Less than monthly ☐ Monthly ☐ Weekly ☐ Daily or almost daily

7. **How often during the last year have you had a feeling of guilt or remorse after drinking?**

   ☐ Never ☐ Less than monthly ☐ Monthly ☐ Weekly ☐ Daily or almost daily

8. **How often during the last year have you been unable to remember what happened the night before because you had been drinking?**

   ☐ Never ☐ Less than monthly ☐ Monthly ☐ Weekly ☐ Daily or almost daily

9. **Have you or someone else been injured as a result of your drinking?**

   ☐ No ☐ Yes, but not in the last year ☐ Yes, during the last year

10. **Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?**

    ☐ No ☐ Yes, but not in the last year ☐ Yes, during the last year

9.2.3 Opioid dependence

Opioid dependency includes patients taking opioid medication for chronic pain. People on stable doses of opioid analgesics for chronic pain management and people taking buprenorphine or methadone for their opioid dependency may not have a higher risk of a crash than the general population, **providing the dose has been stabilised over some weeks and they are not abusing other impairing drugs**.

The risk of impairment due to unsanctioned use of opioids or other sedatives is a consideration. Short-acting opioids, particularly parenteral forms, may cause fluctuation in blood levels of opioids, which would be expected to be incompatible with safe driving. People using these agents should be referred for assessment by an appropriate specialist such as an addiction medicine specialist or addiction psychiatrist.

9.2.4 Non-cooperation in cessation of driving

Should the person continue to drive despite advice to the contrary, the health professional should consider the risk posed to other road users and take reasonable measures to minimise that risk, including notification to the driver licensing authority. This is particularly relevant for commercial vehicle drivers. Refer to Part A section 3.3.1 Confidentiality, privacy and reporting to the driver licensing authority and Appendix 3.2: Legislation relating to reporting by health professionals. See also the information about alcohol interlock programs above.

9.3 Medical standards for licensing

Requirements for unconditional and conditional licences are outlined in the following table.

In providing information to the driver licensing authority regarding suitability of the driver for a conditional licence, the health professional will need to consider the driver's substance use history, response to treatment and their level of insight. For example, in the case of patients with more severe substance use problems who have had previous high rates of relapse and fluctuation in stabilisation, a longer non-driving period and/or the use of an alcohol interlock should be considered prior to granting a conditional licence. Similarly a strong response to treatment and well-documented abstinence and recovery may enable provision of a conditional licence after the minimum period. Remission may be confirmed by biological monitoring for presence of drugs.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Alcohol and other substance use disorders		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Substance use disorder (For withdrawal seizures refer to Acute Symptomatic Seizures, page 86 and 90)	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. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by the **treating doctor** as to whether the following criteria are met: • the person is involved in a treatment program and has been in remission* for at least **one month**; **and** • there is an absence of cognitive impairments relevant to driving; **and** • there is absence of end-organ effects that impact on driving (as described elsewhere in this publication). * Remission is attained when there is abstinence from use of impairing substance/s or where substance use has reduced in frequency to the point where it is unlikely to cause impairment. Remission may be confirmed by biological monitoring for presence of drugs. An alcohol interlock may form part of the approach to managing driving for alcohol dependent people (refer to section 9.2.2 Alcohol dependence and Appendix 5).	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 use or other substance use that is likely to impair safe driving. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, taking into account the nature of the driving task and information provided by an **appropriate specialist (such as an addiction medicine specialist or addiction psychiatrist)** as to whether the following criteria are met: • the person is involved in a treatment program and has been in remission* for at least **three months**; **and** • there is an absence of cognitive impairments relevant to driving; **and** • there is absence of end-organ effects that impact on driving (as described elsewhere in this publication). * Remission is attained when there is abstinence from use of impairing substance/s or where substance use has reduced in frequency to the point where it is unlikely to cause impairment. Remission may be confirmed by biological monitoring for presence of drugs.

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

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10. Vision and eye disorders

10.1 Relevance to the driving task

10.1.1 Effects of vision and eye disorders on driving

Good vision, including visual acuity and visual fields, is essential to operating a motor vehicle. Any marked loss of visual acuity or visual fields will diminish an individual's ability to drive safely. A driver with a significant visual defect may fail to detect another vehicle, pedestrians and/or warning signs, and will take appreciably longer to perceive and react to a potentially hazardous situation.

Peripheral or side vision assists the driver to be aware of the total driving environment and is particularly important in certain common driving tasks, such as merging into a traffic stream or changing lanes, and detecting pedestrians and vehicles to the side of the line of vision.

10.1.2 Evidence of crash risk[1–3]

The evidence is incomplete regarding visual fields and visual acuity and crash risk. This is likely due to the many methodological reasons outlined in Part A of this publication (refer particularly to Part A section 1.5 Development and evidence base). The degree to which reduced visual acuity increases the crash risk ranges from 1.17 to 7.6 times. While it is generally agreed that adequate visual fields are important for safe driving, the actual cut-off value that should be set remains unclear.[7]

The majority of research suggests there is no association between crash risk and colour vision. While there is evidence that people with red-colour-deficient vision have difficulty in detecting red lights and stopping in laboratory and on-road testing, significant improvements in road engineering mean that people with red-colour deficiency may largely compensate for their deficiency while driving.

10.2 General assessment and management guidelines

10.2.1 Visual acuity

For the purposes of this publication, visual acuity is defined as a person's clarity of vision with or without glasses or contact lenses. Where a person does not meet the visual acuity standard at initial assessment, they may be referred for further assessment by an optometrist or ophthalmologist.

Assessment method

Visual acuity should be measured for each eye separately and without optical correction. If optical correction is needed, vision should be retested with appropriate corrective lenses.

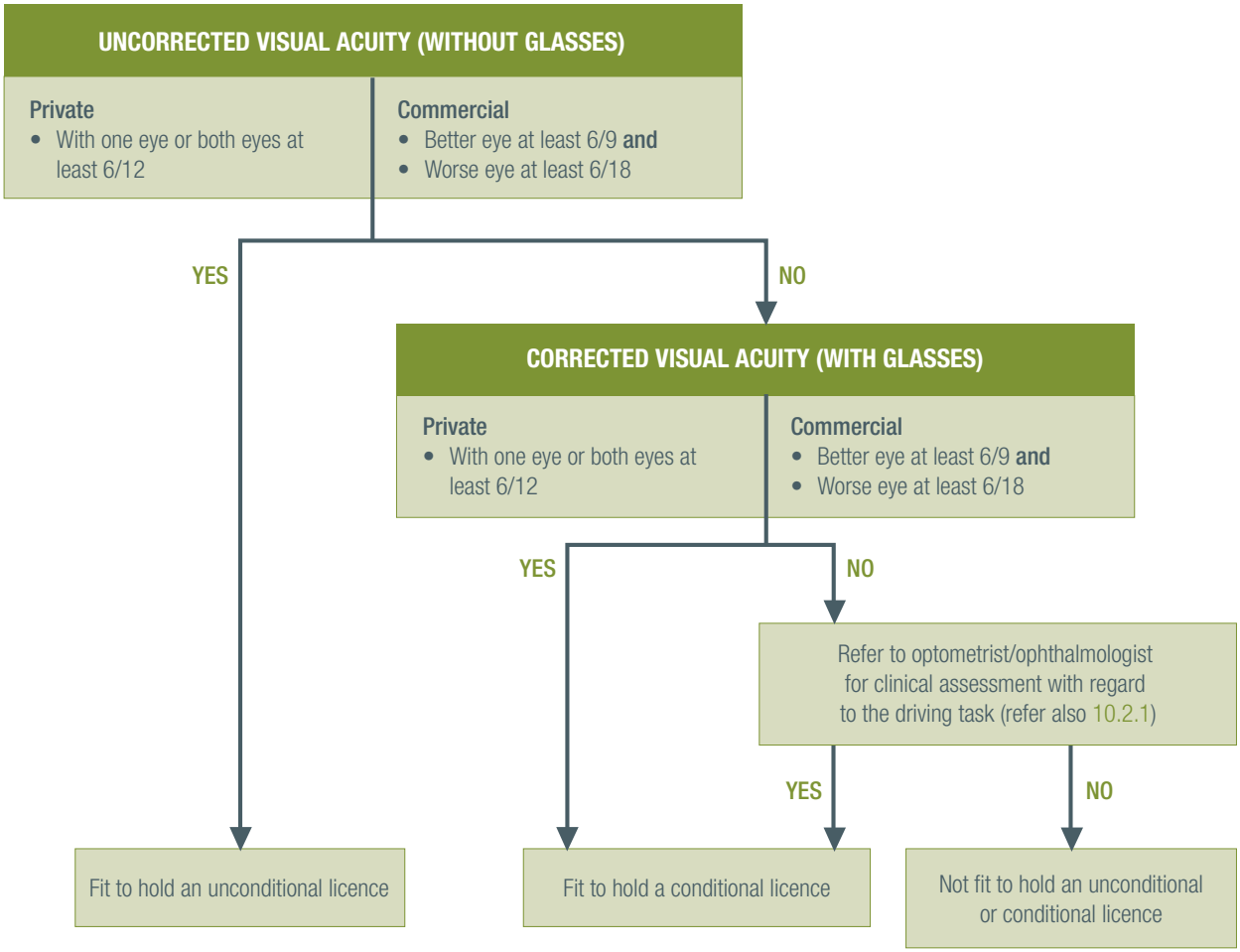
Acuity should be tested using a standard visual acuity chart (Snellen or LogMAR chart or equivalent) with five letters on the 6/12 line. Standard charts should be placed six metres from the person tested; otherwise, a reverse chart can be used and viewed through a mirror from a distance of three metres. Other calibrated charts can be used at a minimum distance of three metres. More than two errors in reading the letters of any line is regarded as a failure to read that line. Refer to Figure 15 for management flow chart.

In the case of a private vehicle driver, if the person's visual acuity is just below that required by the standard but the person is otherwise alert, has normal reaction times and good physical coordination, an optometrist/ophthalmologist can recommend the granting of a conditional licence. The use of contrast sensitivity or other specialised tests may help in the assessment. However, a driver licence will not be issued when visual acuity in the better eye is worse than 6/24 for private vehicle drivers.

There is also some flexibility for commercial vehicle drivers depending on the driving task, providing the visual acuity in the driver's better eye (with or without corrective lenses) is 6/9 or better.

Restrictions on driving may be advised, for example, where glare is a marked problem.

Figure 15: Visual acuity requirements for private and commercial vehicle drivers



10.2.2 Visual fields[5–16]

For the purposes of this publication, visual fields are defined as a measure of the extent of peripheral (side) vision. Normal visual field is: 60 degrees nasally, 100 degrees temporally, 75 degrees inferiorly and 60 degrees superiorly. The binocular field extends the horizontal extent from 160 to 200 degrees, with the central 120 degrees over lapping and providing the potential for stereopsis. Visual fields may be reduced as a result of many neurological or ocular diseases or injuries resulting in hemionopia, quadrantanopia or monocularity.

Peripheral vision assists the driver to be aware of the total driving environment. Once alerted, the central fovea area is moved to identify the importance of the information. Therefore peripheral vision loss that is incomplete will still allow awareness; this includes small areas of loss and patchy loss. Additionally, affected drivers can adapt to the defect by scanning regularly and effectively and can have good awareness. Patients with visual field defects who have full intellectual/cognitive capacity are more able to adapt, but those with such impairments will have decreased awareness and are therefore not safe to drive.

A longstanding defect, such as from childhood, may lead to visual adaptation. Such defects need to be assessed by an ophthalmologist/optometrist for a conditional licence to be considered. They should be managed as an exceptional case to the standard.

Assessment method

If there is no clinical indication of a visual field impairment or a progressive eye condition then it is satisfactory to screen for defect by confrontation. Confrontation is an inexact test. Any person who has, or is suspected of having, a visual field defect should have a formal perimetry-based assessment.

Monocular automated static perimetry is the minimum baseline standard for visual field assessments. If monocular automated static perimetry shows no visual field defect, this information is sufficient to confirm that the standard is met.

Subjects with any significant field defect or a progressive eye condition require a binocular Esterman visual field for assessment. This is classically done on a Humphrey visual field analyser, but any machine that can be shown to be equivalent is accepted. This must be performed with fixation monitoring. Alternative devices must have the ability to monitor fixation and to stimulate the same spots as the standard binocular Esterman. For an Esterman binocular chart to be considered reliable for licensing, the false positive score must be no more than 20 per cent.

Horizontal extent of the visual field

In the case of a private vehicle driver, if the horizontal extension of a person's visual fields are less than 110 degrees but greater or equal to 90 degrees, an optometrist/ophthalmologist may support the granting of a conditional licence by the driver licensing authority. The extent is measured on the Esterman from the last seen point to the next seen point. There is no flexibility in this regard for commercial vehicle drivers.

A single cluster of up to three adjoining missed points, unattached to any other area of defect, lying on or across the horizontal meridian will be disregarded when assessing the horizontal extension of the visual field. A vertical defect of only a single point width but of any length, unattached to any other area of defect, which touches or cuts through the horizontal meridian may be disregarded. There should be no significant defect in the binocular field which encroaches within 20 degrees of fixation above or below the horizontal meridian. This means that homonymous or bitemporal defects that come close to fixation, whether hemianopic or quadrantanopic, are not normally accepted as safe for driving.

Central field loss

Scattered single missed points or a single cluster of up to three adjoining points is acceptable central field loss for a person to hold an unconditional licence. **A significant or unacceptable central field loss is defined as any of the following**:

- a cluster of four or more adjoining points that is either completely or partly within the central 20-degree area
- loss consisting of both a single cluster of three adjoining missed points up to and including 20 degrees from fixation, and any additional separate missed point(s) within the central 20-degree area
- any central loss that is an extension of a hemianopia or quadrantanopia of size greater than three missed points.

Methods of measurement of visual fields are limited in their ability to resemble the demands of the real-world driving environment where drivers are free to move their eyes as required and must sustain their visual function in variable conditions. Thus additional factors to be considered by the driver licensing authority in assessing patients with defects in visual fields include, but are not limited to, the following:

- kinetic fields conducted on a Goldman
- binocular Esterman visual fields conducted without fixation monitoring, often referred to as a roving Esterman (two consecutive tests must be performed with no more than one false positive allowed) – the test should be in the numeric field format when it is printed out or sent for an opinion
- contrast sensitivity and glare susceptibility
- medical history; duration and prognosis; if the condition is progressive; rate of progression/deterioration; effectiveness of treatment/management
- driving record prior to and since the occurrence of the defect
- the nature of the driving task, for example, type of vehicle (truck, bus, etc.), roads and distances to be travelled
- concomitant medical conditions such as cognitive impairment or impaired rotation of the neck.

There is no flexibility in this regard for commercial vehicle drivers.

Monocular vision (one-eyed driver)

Monocular drivers have a reduction of visual fields due to the nose obstructing the medial visual field. They also have no stereoscopic vision and may have other deficits in visual functions.

For private vehicle drivers, a conditional licence may be considered by the driver licensing authority if the horizontal visual field is 110 degrees and the visual acuity is satisfactory in the better eye. The health of the better eye must be reviewed every two years. People with monocular vision are generally not fit to drive a commercial vehicle. However, if an ophthalmologist/optometrist assesses that the person may be safe to drive after consideration of the above listed factors a conditional licence may be considered by the driver licensing authority, subject to at least two-yearly review of the better eye.

If monocular automated static perimetry is undertaken on patients without symptoms, family history or risk factors for visual field loss, and shows no indication of any visual field concerns, this information may be sufficient to confirm that the standard is met. If monocular testing suggests a field defect, or if the patient has a progressive eye condition, and/or the patient has any other symptoms or signs that indicate a field defect, then binocular testing should be conducted using the Esterman binocular field test or an Esterman-equivalent test. Alternative devices must have the ability to monitor fixation and to stimulate the same spots as the standard binocular Esterman.

Sudden loss of unilateral vision

A person who has lost an eye or most of the vision in an eye on a long-term basis has to adapt to their new visual circumstances and re-establish depth perception. They should therefore be advised not to drive for an appropriate period after the onset of their sudden loss of vision (usually three months). They should notify the driver licensing authority and be assessed according to the relevant visual field standard.

10.2.3 Diplopia

People suffering from all but minor forms of diplopia are generally not fit to drive. Any person who reports or is suspected of experiencing diplopia should be referred for assessment by an optometrist or ophthalmologist. For diplopia managed with an occluder, a three-month non-driving period applies in order to re-establish depth perception.

10.2.4 Progressive eye conditions

People with progressive eye conditions such as cataract, glaucoma, optic neuropathy and retinitis pigmentosa should be monitored regularly and should be advised in advance regarding the potential future impact on their driving ability so that they may consider appropriate lifestyle changes.

10.2.5 Congenital and acquired nystagmus

Nystagmus may reduce visual acuity. Drivers with nystagmus must meet the visual acuity standard. Any underlying condition must be fully assessed to ensure there is no other issue that relates to fitness to drive. Those who have congenital nystagmus may have developed coping strategies that are compatible with safe driving and should be individually assessed by an appropriate specialist.

10.2.6 Colour vision

There is not a colour vision standard for drivers, either private or commercial. Doctors and optometrists should, however, advise drivers who have a significant colour vision deficiency about how this may affect their responsiveness to signal lights and the need to adapt their driving accordingly. Note, this standard applies only to driving within normal road rules and conditions. A standard requiring colour vision may be justified based on risk assessment for particular driving tasks.

10.2.7 Telescopic lenses (bioptic telescopes) and electronic aids

These devices may improve acuity at the cost of visual field. They are not an acceptable aid to meet the standards.

10.2.8 Practical driver assessments

A practical driver assessment is not considered to be a safe or reliable method of assessing the effects of disorders of vision on driving, especially the visual fields, as the driver's response to emergency situations or various environmental conditions cannot be determined. Information about adaptation to visual field defects can be gained from visual field tests such as the Esterman.

A practical driver assessment may be helpful in assessing the ability to process visual information (refer to Part A section 2.3.1 Practical driver assessments).

10.2.9 Exceptional cases

In unusual circumstances, cases may be referred by the driver licensing authority for further medical specialist opinion (refer to Part A section 3.3.7 Role of independent experts/panels).

10.3 Medical standards for licensing

Requirements for unconditional and conditional licences are outlined in the following table for:

- visual acuity
- visual fields including monocular vision
- diplopia.

It is important that health professionals familiarise themselves with both the general information above and the tabulated standards before making an assessment of a person's fitness to drive.

Medical standards for licensing – Vision and eye disorders		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Visual acuity **(refer to Figure 15)** **Refer to page 124 for assessment method.**	A person is **not** fit to hold an **unconditional licence**: • if the person's uncorrected visual acuity in the better eye or with both eyes together is worse than 6/12. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review** if the standard is met with corrective lenses. Some discretion is allowed in application of the standard by an optometrist/ophthalmologist. However, a driver licence will not be issued when visual acuity in the better eye is worse than 6/24.	A person is **not** fit to hold an **unconditional licence**: • if the person's uncorrected visual acuity is worse than 6/9 in the better eye; **or** • if the person's uncorrected visual acuity is worse than 6/18 in either eye. A **conditional licence** may be considered by the driver licensing authority subject to **periodic review** if the standard is met with corrective lenses. If the person's vision is worse than 6/18 in the worse eye, a **conditional licence** may be considered by the driver licensing authority subject to **periodic review**, provided the visual acuity in the better eye is 6/9 (with or without corrective lenses) according to the **treating optometrist/ophthalmologist**. The driver licensing authority take into account: • the nature of the driving task; • the nature of any underlying disorder; **and** • any other restriction advised by the optometrist or ophthalmologist.

Medical standards for licensing – Vision and eye disorders		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Visual fields (including monocular vision) **Refer to page 125 for assessment method.** **See also text in relation to further considerations for assessing field defects (section 10.2.2, page 125).**	A person is **not** fit to hold an **unconditional licence**: • if the binocular visual field does not have a horizontal extent of at least 110 degrees within 10 degrees above and below the horizontal midline; **or** • if there is any significant visual field loss (scotoma) within a central radius of 20 degrees of the foveal fixation or other scotoma likely to impede driving performance; **or** • if there is any significant visual field loss (scotoma) with more than 4 contiguous spots within a 20 degree radius from fixation. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating optometrist or ophthalmologist**. **Monocular vision** A person is **not** fit to hold an **unconditional licence**: • if the person is monocular. A **conditional licence** may be considered by the driver licensing authority subject to **two-yearly review**, taking into account the nature of the driving task and information provided by the **treating optometrist or ophthalmologist** as to whether the following criteria are met: • the visual acuity in the remaining eye is 6/12 or better, with or without correction; **and** • the visual field in the remaining eye has a horizontal extent of at least 110 degrees within 10 degrees above and below the horizontal midline.	A person is **not** fit to hold an **unconditional licence**: • if the person has any visual field defect. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating optometrist or ophthalmologist** as to whether the following criteria are met: • the binocular visual field has an extent of at least 140 degrees within 10 degrees above and below the horizontal midline • the person has no significant visual field loss (scotoma, hemianopia, quadrantanopia) that is likely to impede driving performance • the visual field loss is static and unlikely to progress rapidly. **Monocular vision** A person is **not** fit to hold an **unconditional licence**: • if the person is monocular. A **conditional licence** may be considered by the driver licensing authority subject to **two-yearly review**, taking into account the nature of the driving task and information provided by the **treating ophthalmologist or optometrist**, and the comments made in section 10.2.2 Visual fields under the subheading *Monocular vision (one-eyed driver)*.

Medical standards for licensing – Vision and eye disorders		
Condition	**Private standards** (Drivers of cars, light rigid vehicles or motorcycles unless carrying public passengers or requiring a dangerous goods driver licence – refer to definition, page 21)	**Commercial standards** (Drivers of heavy vehicles, public passenger vehicles or requiring a dangerous goods driver licence – refer to definition, page 21)
Diplopia	A person is **not** fit to hold an **unconditional licence**: • if the person experiences any diplopia (other than physiological diplopia) when fixating objects within the central 20 degrees of the primary direction of gaze. A **conditional licence** may be considered by the driver licensing authority subject to **annual review**, taking into account the nature of the driving task and information provided by the **treating optometrist or ophthalmologist** as to whether the following criteria are met: • the condition is managed satisfactorily with corrective lenses or an occluder; **and** • the person meets other criteria as per this section, including visual fields. The following licence condition may apply if corrective lenses or an occluder prevents the occurrence of diplopia. **Corrective lenses or an occluder must be worn while driving. A 3 month non-driving period applies for use of occluders, in order to re-establish depth perception.**	A person is **not** fit to hold an **unconditional licence** or a **conditional licence**: • if the person experiences any diplopia (other than physiological diplopia) when fixating objects within the central 20 degrees of the primary direction of gaze.

IMPORTANT: The medical standards and management guidelines contained in this chapter should be read in conjunction with the general information contained in Part A of this publication. Practitioners should give consideration to the following:

Licensing responsibility

The responsibility for issuing, renewing, suspending or cancelling, or reinstating a person's driver licence (including a conditional licence) lies ultimately with the driver licensing authority.

Licensing decisions are based on a full consideration of relevant factors relating to health and driving performance.

Conditional licences

For a conditional licence to be issued, the health professional must provide to the driver licensing authority details of the medical criteria not met, evidence of the medical criteria met, as well as the proposed conditions and monitoring requirements.

The nature of the driving task

The driver licensing authority will take into consideration the nature of the driving task as well as the medical condition, particularly when granting a conditional licence. For example, the licence status of a farmer requiring a commercial vehicle licence for the occasional use of a heavy vehicle may be quite different from that of an interstate multiple combination vehicle driver. The examining health professional should bear this in mind when examining a person and when providing advice to the driver licensing authority.

The presence of other medical conditions

While a person may meet individual disease criteria, concurrent medical conditions may combine to affect fitness to drive, for example, hearing, visual or cognitive impairment (refer to Part A section 2.2.7 Multiple conditions and age-related change).

Reporting responsibilities

Patients should be made aware of the effects of their condition on driving and should be advised of their legal obligation to notify the driver licensing authority where driving is likely to be affected. The health professional may themselves advise the driver licensing authority as the situation requires (refer to pages 17 and 31).

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Part C: Appendices

Appendix 1: Regulatory requirements for driver testing

(as at February 2016)

Drivers in most states and territories are required to make a medical self-declaration in relation to their fitness to drive at licence application and renewal. The information obtained may result in a requirement for medical assessment or refusal of the application. In addition, each state and territory has specific requirements for medical examinations or road testing, depending on the driver's age or the type of vehicle being driven, such as heavy vehicles, public passenger vehicles and dangerous goods vehicles. There are also specific requirements for drivers and operating a vehicle as a driver instructor. The following table summarises these requirements at September 2015. Note that various agencies are involved in overseeing the requirements for different vehicle types, and these agencies generally cooperate in this regard to support road safety.

Note: All review requirements may be amended on medical advice or on self-declaration or at the request of the licensing authority. This information is current as of February 2016. Refer to your state or territory driver licensing authority or other responsible agency for current requirements (see Appendix 9: Driver licensing authority contacts).

Commercial vehicle drivers accredited under Basic Fatigue Management (BFM) and Advanced Fatigue Management (AFM) have additional medical assessment requirements. Under these schemes, medical examinations are to be conducted, as a minimum, once every three years for drivers aged 49 or under, and yearly for drivers aged 50 or over and must assess sleep disorders. Note: Not all states/territories participate in these fatigue management schemes (currently Australian Capital Territory, Northern Territory and Western Australia do not participate).

State/Territory	Vision test	Medical assessment	Road test
Australian Capital Territory	**Private vehicle drivers**		
	Vision test for all drivers on initial licence; on renewal at ages 50, 60, 65, 70 and 75, and annually thereafter.	Medical assessment for all licence classes at age 75 years and annually thereafter.	No prescribed period or age.
	Commercial vehicle drivers		
	Heavy vehicle drivers (class MR and above): vision test on initial application; when upgrading to medium rigid (class MR); on renewal at ages 50, 60, 65, 70, 75 and annually thereafter.	**Heavy vehicle drivers** (class MR and above): medical assessment at age 75 years and annually thereafter.	**Heavy vehicle drivers** (class MR and above): road test on initial application; when upgrading to MR class or above. No prescribed period or age thereafter, unless declared or reported.
	Public passenger vehicle drivers (H, M, O, T, W): vision test on initial application, then five-yearly to age 70, then annually thereafter. In all cases additional or more frequent health assessments may be required if a condition is reported.	**Public passenger vehicle drivers** (H, M, O, T, W): medical assessment on initial application, then five-yearly to age 70, then annually thereafter. In all cases additional or more frequent health assessments may be required if a condition is reported.	**Public passenger vehicle drivers** (H, M, O, T, W): road test on application, at age 70 and annually thereafter.
	Dangerous goods vehicle drivers: vision test on initial application, then every five years.	**Dangerous goods vehicle drivers:** medical assessment on initial application, then every five years.	**Dangerous goods vehicle drivers:** no special requirements.
	Driving instructors: vision test on initial application and annually thereafter.	**Driving instructors:** medical assessment on initial application and annually thereafter.	**Driving instructors:** no prescribed period or age after initial test for licensing.

State/Territory	Vision test	Medical assessment	Road test
New South Wales	**Private vehicle drivers**		
	Vision test for all drivers on initial application. All car and rider licence holders under 45 years of age have an eyesight test every 10 years. All car and rider licence holders 45 years of age or older have an eyesight test every five years. Drivers 75 years and over require an annual eyesight test.	Medical assessment for all licence classes at age 75 years and annually thereafter.	Road test required every two years for all car drivers (class C) and drivers of motorcycles (class R) from 85 years of age. Annual driving test for heavy vehicle drivers with a light rigid (LR) to heavy combination (HC) from 80 years of age. A road test may be required as a result of a doctor's or police recommendation.
	Commercial vehicle drivers		
	Vision test for all drivers on initial application and on each renewal and replacement.	Medical assessment for all licence classes at 75 years of age and annually thereafter.	Annual road test required for heavy vehicle drivers (LR, MR, HR and HC) from 80 years of age.
	Multiple combination vehicle (road train) drivers (class MC): vision test with medical assessment on initial application and then at age 21 and every 10 years up to age 40, then every five years until age 60, then every two years until age 70; annually thereafter.	**Multiple combination vehicle** (road train) drivers (class MC): medical assessment on initial application and then at age 21 and every 10 years up to age 40, then every five years until age 60, then every two years until age 70; annually thereafter.	**Multiple combination vehicle** (road train) drivers (class MC): road test at 70 years and annually thereafter.
	Public passenger vehicle drivers (buses): vision test on initial application and then every three years until the age of 60 years; annually thereafter.	**Public passenger vehicle drivers** (buses): medical assessment on initial application and then every three years until the age of 60 years; annually thereafter.	**Public passenger vehicle drivers** (buses): road test at age 80 years.
	Dangerous good vehicle drivers: vision test on initial application, then every five years.	**Dangerous goods vehicle drivers:** medical assessment on initial application, then every five years.	**Dangerous goods vehicle drivers:** no prescribed period or age, unless declared or reported.
	Driving instructors: vision test on initial application; thereafter in line with driver licence class held.	**Driving instructors:** medical assessment on initial application; thereafter in line with driver licence class held.	**Driving instructors:** on initial application; thereafter in line with driver licence class held.

State/Territory	Vision test	Medical assessment	Road test
Northern Territory	Private vehicle drivers		
	Vision test for all drivers on initial application.	Medical assessment only when condition notified by a health professional or driver.	Road test only when recommended by a health professional.
	Commercial vehicle drivers		
	Vision test on initial application.	Medical assessment only when a condition is reported by a health professional or driver.	Only if recommended by a health professional.
	Public passenger vehicle drivers: as above.	**Public passenger vehicle drivers:** medical assessment on initial application, then five-yearly or sooner if a condition is reported.	**Public passenger vehicle drivers:** road test only if recommended by a health professional.
	Dangerous good vehicle drivers: vision test on initial application, then every five years.	**Dangerous goods vehicle drivers:** medical assessment on initial application, then five-yearly thereafter.	**Dangerous goods vehicle drivers:** no specific requirements.
	Driving instructors: as above.	**Driving instructors:** medical assessment on initial application, then five-yearly or sooner if a condition is reported.	**Driving instructors:** road test only if recommended by a health professional.

State/Territory	Vision test	Medical assessment	Road test
Queensland	Private vehicle drivers		
	A vision test, performed by a health professional, and a medical certificate verifying the outcome of the test is required if the applicant declares a vision or eye disorder or if required by the chief executive. Vision tests are not performed by departmental staff.	A person must obtain, carry and drive in accordance with a current medical certificate if: • they have a mental or physical incapacity that may affect their ability to drive safely, or • they are 75 years of age or older. Currency of the medical certificate is determined by the health professional. Medical certificates issued to drivers 75 years or older have a maximum validity of one year.	Road test required on application.

State/Territory	Vision test	Medical assessment	Road test
Queensland (cont'd)	Commercial vehicle drivers		
	Heavy vehicle drivers: a vision test, performed by a health professional, and a medical certificate verifying the outcome of the test is required if the applicant declares a vision or eye disorder or if required by the chief executive. Vision tests are not performed by departmental staff.	**Heavy vehicle drivers:** a person must obtain, carry and drive in accordance with a current medial certificate if: • they have a mental or physical incapacity that may affect their ability to drive safely, or • they are 75 years of age or older. Currency of the medical certificate is determined by the health professional. Medical certificates issued to drivers 75 years or older have a maximum validity of one year.	**Heavy vehicle drivers:** road test required on application.
	Public passenger vehicle drivers: a vision test, performed by a health professional, is required every five years (as part of the prescribed medical assessment), or more frequently if required by a health professional. Vision tests are not performed by departmental staff.	**Public passenger vehicle drivers:** a medical assessment is required every five years, or more frequently if required by a health professional. A driver 75 years of age or older is required to obtain, carry and drive in accordance with a current medical certificate.	**Public passenger vehicle drivers:** no prescribed period or age, unless declared or reported.
	Dangerous good vehicle drivers: a vision test, performed by a health professional, is required on initial application, then every three years as part of the prescribed medical assessment), or more frequently if required by a health professional. Vision tests are not performed by departmental staff.	**Dangerous goods vehicle drivers:** a medical assessment is required on initial application, then every three years, or more frequently if required by a health professional. A driver 75 years of age or older is required to obtain, carry and drive in accordance with a current medical certificate.	**Dangerous goods vehicle drivers:** no prescribed period or age, unless declared or reported.
	Driving instructors: no vision test required unless the applicant declares a vision or eye disorder or if required by the chief executive. Vision tests are not performed by departmental staff.	**Driving instructors:** no medical assessment required unless the person has a mental or physical incapacity that may affect their ability to drive safely. A driver 75 years of age or older is required to obtain, carry and drive in accordance with a current medical certificate.	**Driving instructors:** no prescribed period or age, unless declared or reported.

State/Territory	Vision test	Medical assessment	Road test
South Australia	Private vehicle drivers		
	Vision test yearly from 70 years of age for holders of licence classes other than C or if declared or reported.	Medical assessment required yearly from 70 years of age for holders of licence classes other than C.	Road test annually from age 85 for licence classes other than C.
	Commercial vehicle drivers		
	Heavy vehicle drivers: vision test annually from 70 years of age or with prescribed medical examinations.	**Heavy vehicle drivers:** medical assessment annually from 70 years of age for all licence holders unless prescribed otherwise (refer below). **Multiple combination vehicle drivers** (class MC) operating south of Port Augusta: medical assessment every three years up to 49 years of age, then annually.	**Heavy vehicle drivers:** road test annually from age 85.
	Public passenger vehicle drivers: vision test with medical assessment every three years up to age 70 years, then annually thereafter.	**Public passenger vehicle drivers:** medical assessment every three years up to age 70 years, then annually thereafter.	**Public passenger vehicle drivers:** no prescribed period or age, unless declared or reported.
	Dangerous good vehicle drivers: vision test on initial application, then every three years.	**Dangerous goods vehicle drivers:** medical assessment on initial application, then every three years.	**Dangerous goods vehicle drivers:** no prescribed period or age, unless declared or reported.
	Driving instructors: vision test on licence application and renewal.	**Driving instructors:** medical assessment on licence application and renewal.	**Driving instructors:** no prescribed period or age, unless declared or reported.

State/Territory	Vision test	Medical assessment	Road test
Tasmania	Private vehicle drivers		
	Vision test required on initial application.	No prescribed period or age but may occur if a medical condition and/or concern is declared or reported.	No prescribed period or age but may occur if a medical condition and/or concern is declared or reported.
	Commercial vehicle drivers		
	Multiple combination vehicle drivers (class MC): vision test required on initial application (as part of medical assessment).	**Multiple combination vehicle drivers** (class MC): medical assessment on initial application.	**Heavy vehicle drivers:** road test or training course on initial application; no tests/courses are required thereafter.
	Public passenger vehicle drivers: vision test on initial application and then as part of required medical assessments (refer to next column).	**Public passenger vehicle drivers** (Ancillary Certificate Public Passenger Vehicles): medical assessment on initial application, then every three years up to age 65, then annually. (ACPPVs are further categorised: taxi or other).	**Public passenger vehicle drivers** (ACPPV): no prescribed period or age, unless declared or reported. (ACPPVs are further categorised: taxi or other).
	Dangerous goods vehicle drivers: vision test on initial application, then every licence renewal period.	**Dangerous goods vehicle drivers:** medical assessment on initial application, then every licence renewal period.	**Dangerous goods vehicle drivers:** no prescribed period or age, unless declared or reported.
	Driving instructors: vision test on initial application and then as part of required medical assessments (refer to next column).	**Driving instructors:** medical assessment on initial application, then every three years until age 65 years; then annually.	**Driving instructors:** training course on initial application.

State/Territory	Vision test	Medical assessment	Road test
Victoria	Private vehicle drivers		
	Vision test for all drivers on initial application and subsequently if a concern is declared or reported.	No prescribed period or age but may occur if a concern is declared or reported.	No prescribed period or age but may occur if a concern is declared or reported.
	Commercial vehicle drivers		
	Heavy vehicle drivers: vision test on initial application. Otherwise no specified period, unless declared or reported.	**Heavy vehicle drivers:** no prescribed period or age, unless declared or reported.	**Heavy vehicle drivers:** no prescribed period or age, unless declared or reported.
	Public passenger vehicle drivers (taxis, bus): vision test with medical assessment every three years unless medical practitioner advises shorter review periods. If a driver is changed from a three-year to a 12-month accreditation, ongoing annual review is generally required.	**Public passenger vehicle drivers** (taxis, bus): medical assessment every three years unless medical practitioner advises shorter review periods. If a driver is changed from a three-year to a 12-month accreditation, ongoing annual review is generally required.	**Public passenger vehicle drivers** (taxis, bus): no prescribed period or age, unless declared or reported.
	Dangerous good vehicle drivers: vision test on initial application, then every five years.	**Dangerous goods vehicle drivers:** medical assessment on initial application, then every five years.	**Dangerous goods vehicle drivers:** no prescribed period or age, unless declared or reported.
	Driving instructors: vision test on licence application then every three years unless a medical practitioner advises shorter review periods. If a driver is changed from a three-year to a 12-month accreditation, ongoing annual review is generally required.	**Driving instructors:** medical assessment on application then every three years unless a medical practitioner advises shorter review periods. If a driver is changed from a three-year to a 12-month accreditation, ongoing annual review is generally required.	**Driving instructors:** no prescribed period or age, unless declared or reported.

State/Territory	Vision test	Medical assessment	Road test
Western Australia	Private vehicle drivers		
	Vision test required on initial application then yearly from 80 years of age (as part of required medical assessment), or as required dependent on condition declared or reported.	Annually from 80 years of age, unless a medical condition requires earlier assessment.	Road test annually from age 85 for licence classes other than C unless a medical condition requires earlier assessment.
	Commercial vehicle drivers		
	Heavy vehicle drivers (class MR and above): vision test required on initial application then yearly from 80 years of age (as part of required medical assessment) or as required dependent on condition declared or reported.	**Heavy vehicle drivers** (class MR and above): annually from 80 years of age, unless a medical condition requires earlier assessment.	**Heavy vehicle drivers** (class MR and above): road test at 85 years of age, then annually unless a medical condition requires earlier assessment.
	Public passenger vehicle drivers: vision test on initial application and then when applying for an additional class, then every five years until age 45, then every two years until age 65, then annually.	**Public passenger vehicle drivers:** medical assessment on initial application, then every five years until age 45, then every two years until age 65, then annually.	**Public passenger vehicle drivers:** road test at age 65, 70 and then annually.
	Dangerous good vehicle drivers: vision test on initial application, then every five years.	**Dangerous goods vehicle drivers:** medical assessment on initial application, then every five years.	**Dangerous goods vehicle drivers:** no prescribed period or age, unless declared or reported.
	Driving instructors: vision test on initial application and when applying for an additional class, then every five years until age 45, then every two years until age 65, then annually from age 65.	**Driving instructors:** medical assessment on initial application, then as per public passengers vehicle drivers (every five years until age 45), then every two years until age 65, then annually.	**Driving instructors:** practical driving and instructional technique assessment every three years unless exempted.

Appendix 2: Forms

Appendix 2.1: Medical report form

The driver licensing authority has a legal responsibility to ensure all drivers have the appropriate skills and ability, and are medically fit to hold a driver licence. To meet this responsibility, legislation gives the driver licensing authority the authority to ask any motor vehicle licence holder or applicant to provide medical evidence of their suitability to drive and/or to undergo a driver assessment.

This is facilitated by a medical report. The relevant driver licensing authority provides the medical report form to the driver, who will present it to the health professional for completion at the time of the examination. This form is the key communication between health professionals and driver licensing authorities. It should be completed with details of any medical criteria not met, as well as details of recommended conditions and monitoring requirements for a conditional licence. Medical information that is not relevant to the patient's fitness to drive should not be included on this form for privacy reasons.

The forms used by each state or territory vary; however, they will generally include the information outlined below. For further information contact your local driver licensing authority (refer to Appendix 9: Driver licensing authority contacts).

Information required in a medical report form

Driver details:

- name and contact details
- consent for the driver licensing authority to contact the health professional for further information relevant to the person's fitness to drive (inclusion and wording will depend on jurisdiction)
- licence details (to guide the health professional in selecting the appropriate standard for assessment, i.e. private or commercial).

Health professional details:

- date of examination
- health professional's name and contact details
- signature of examining health professional.

Assessment of fitness to drive – the health professional records the following:

- whether they were familiar with the driver's medical history prior to the examination
- which standards (private/commercial) were applied in the examination
- whether the driver meets / does not meet criteria for an unconditional licence (noting criteria that are not met and other relevant medical details)
- whether the driver meets / does not meet criteria for a conditional licence, noting
  - criteria that are not met and other relevant medical details
  - proposed restrictions to the person's licence (if appropriate)
  - suggestions for management and periodic review interval (conditional licence)
- whether the driver requires additional assessment including
  - specialist assessment (specify type)
  - practical driving assessment (specify type)
  - occupational therapist assessment
- whether the driver's condition has now improved so as to meet criteria for a conditional or unconditional licence noting
  - criteria previously not met
  - response to treatment and prognosis
  - duration of improvement
  - other relevant information including consideration of the driving task.

Other information contained within the form:

- legal information
- instructions to
  - the driver/applicant
  - the health professional
- information about
  - occupational therapy driver assessments
  - driver licensing authority driver assessments.

Appendix 2.2: Medical condition notification form

If, in the course of treatment, a patient's condition is found to affect their ability to drive safely, the health professional should, in the first instance, encourage the patient to report their condition to the driver licensing authority. A standard form, Medical condition notification form, has been produced to facilitate this process. The health professional completes the form, explains the circumstances to the patient and asks the patient to forward the form to the driver licensing authority. Most driver licensing authorities will also accept a letter from the treating practitioner or specialist. The letter should, however, include the details laid out in the form to enable the driver licensing authority to make a decision.

If necessary, the health professional may feel obliged to make a report directly to the driver licensing authority using a copy of this form (refer to pages 17 and 31). Even when making a report directly to the driver licensing authority, the health professional should inform the patient that they are doing so.

Medical condition notification form

To: [Insert the address of your local driver licensing authority – refer to Appendix 9: Driver licensing authority contacts]

Patient details [please print]:

Mr/Mrs/Ms: Surname:

Given names:

Full address:

Date of birth: / / Licence no.:

Assessment of Fitness to Drive – Report

I have examined the patient (whose name, address and date of birth are set out above) in accordance with the relevant National Medical Standards (private or commercial) as set out in *Assessing Fitness to Drive, 2016*.

☐ Private vehicle standards ☐ Commercial vehicle standards

I have known/treated the patient for _____ years.

According to this assessment, please select **ONE** of the **THREE** options below and provide supporting information:

Option 1

☐ In my opinion, the person who is the subject of this report **does not meet** the medical criteria to hold an unconditional licence (as outlined in *Assessing Fitness to Drive*) but may meet the medical criteria to hold a **conditional licence**.

Please describe the nature of the condition and the medical criteria that are not met.

Please provide information to support the consideration of a **conditional licence** including evidence of the medical criteria met and consideration of the nature of the driving task.

Please describe any recommended **licence conditions** or **restrictions** relating to the driver's medical condition including requirements for periodic review (e.g. annual review), vehicle modifications, corrective lenses or restricted daytime driving, etc.

☐ Further comments on medical condition(s) affecting safe driving appear attached

OR

Option 2

☐ In my opinion, the person who is the subject of this report **does not meet** the medical criteria to hold an **unconditional** or **conditional licence** as outlined in *Assessing Fitness to Drive*.

Please describe the nature of the condition and the medical criteria not met, including a consideration of the driving task.

☐ Further comments on medical condition(s) affecting safe driving are attached

OR

Option 3

Reinstatement of licence:
In my opinion the medical condition of the person who is the subject of this report has improved so as to meet the criteria for a **conditional** or **unconditional licence**.

Please provide details of: the criteria previously not met; the response to treatment and prognosis; duration of improvement; and other relevant information including consideration of the driving task.

☐ Further comments on medical condition(s) affecting safe driving are attached.

Health professional's details: Reporting professional's name [please print]:

Professional's address:

Telephone: ( ) Fax: ( )

Date of examination: / / Signature:

Appendix 3: Legislation relating to reporting

Appendix 3.1: Legislation relating to reporting by drivers (as at December 2015)

State/Territory	Legislation	Discretionary reporting
Australian Capital Territory	*Road Transport (Driver Licensing) Regulation 2000, s. 77 (2), (3)*	If a person who is the holder of a driver licence suffers any permanent or long-term illness, injury or incapacity that may impair his or her ability to drive safely, the person must tell the road transport authority as soon as practicable (but within seven days). Maximum penalty: 20 penalty units. It is a defence to the prosecution of a person for an offence against this section if the person establishes: (a) that the person was unaware that his or her ability to drive safely had been impaired, or (b) that the person had another reasonable excuse for contravening the sub-section.
New South Wales	*Road Transport (Driver Licensing Regulation 2008, c. 117 (5)*	The holder of a driver licence must, as soon as practicable, notify the road transport authority of any permanent or long-term injury or illness that may impair his or her ability to drive safely.
Northern Territory	*Motor Vehicles Act 1959 11(3)*	If a person who is licensed to drive a motor vehicle is suffering from a physical or mental incapacity that may affect his or her ability to drive a motor vehicle with safety to the public, the person or his or her personal representative, they must notify the registrar of the nature of the incapacity in terms of unfitness.
Queensland	*Transport Operations (Road Use Management – Driver Licensing) Regulation 2010, 50, 51* *Transport Operations (Passenger Transport) Regulation 2005, 40A*	A person is not eligible for the grant or renewal of a Queensland driver licence if the chief executive reasonably believes the person has a mental or physical incapacity that is likely to adversely affect the person's ability to drive safely. However, the person is eligible for the grant or renewal of a Queensland driver licence if the chief executive reasonably believes that, by stating conditions on the licence, the person's incapacity is not likely to adversely affect the person's ability to drive safely. The holder of a Queensland driver licence must give notice to the chief executive if they develop any permanent or long-term mental or physical incapacity, or there is any permanent or long-term increase in, or other aggravation of, a mental or physical incapacity that is likely to affect the holder's ability to drive safely. More specifically, there is a standard for drivers of public passenger vehicles: An authorised driver must: (a) notify the chief executive if there is a change in the driver's medical condition that makes the driver continuously unfit to safely operate a motor vehicle for more than one month (b) within five years after the issue of the last medical certificate given to the chief executive, give the chief executive a fresh medical certificate.
South Australia	*Motor Vehicles Act 1959, 98AAF*	The holder of a licence or learner's permit who, during the term of the licence or permit, suffers any illness or injury that may impair his or her competence to drive a motor vehicle without danger to the public must, within a reasonable time after the occurrence of the illness or injury, notify the registrar in writing of that fact. Maximum penalty: $750

State/Territory	Legislation	Discretionary reporting
Tasmania	*Vehicle and Traffic (Driver Licensing and Vehicle Registration) Regulations 2010, 36(6), (7)*	The holder of a driver licence must, as soon as practicable, notify the registrar of: (a) any permanent or long-term injury or illness that may impair his or her ability to drive safely, or (b) any deterioration of physical or mental condition (including a deterioration of eyesight) that may impair his or her ability to drive safely, or (c) any other factor related to physical or mental health that may impair his or her ability to drive safely. Penalty: Fine not exceeding 10 penalty units. Unless the registrar requires written notification, the notification need not be in writing.
Victoria	*Road Safety (Drivers) Regulations 2009, reg. 67(2)*	The holder of a driver licence or permit or any person exempted from holding a driver licence or permit under section 18(1)(a) of the Act must, as soon as practicable, notify VicRoads and any other relevant agency of any permanent or long-term injury or illness that may impair his or her ability to drive safely.
Western Australia	*Road Traffic (Authorisation to Drive) Regulations 2014, s. 64*	Duty to reveal things that might impair ability: (1) In this regulation – driving impairment of the person means any permanent or long-term mental or physical condition (which may include a dependence on drugs or alcohol) that is likely to, or treatment for which is likely to, impair the person's ability to control a motor vehicle either – (a) in all circumstances; or (b) except under certain conditions or subject to certain limitations; or (c) unless measures are taken to overcome the impairment. (2) A person applying for the grant of a learner's permit or a driver licence, other than by way of renewal must, when applying, inform the CEO of any driving impairment of the person. Penalty: 10 PU. Modified penalty: 1 PU. (3) If a person who holds a learner's permit or a driver licence becomes affected by any driving impairment of the person of which the person has not already informed the CEO, the person must, as soon as practicable, to inform the CEO in writing of the impairment. Penalty: 10 PU Modified penalty: 1 PU (4) If a person who has informed the CEO of a driving impairment of the person becomes affected by an increase in the extent of the impairment to a degree that is substantially different from that of which the CEO was most recently informed the person must, as soon as practicable, inform the CEO in writing of the development. Penalty: 10 PU Modified penalty: 1 PU (5) If a person who has informed the CEO of a driving impairment of the person later informs the CEO that the person has ceased to be affected by the impairment but subsequently becomes again affected by it the person must, as soon as practicable inform the CEO in writing of the development. Penalty: 10 PU. Modified penalty: 1 PU.

Appendix 3.2: Legislation relating to reporting by health professionals (as at December 2015)

Legislation/ Jurisdiction	Applies to	Discretionary reporting	Mandatory reporting
Australian Capital Territory *Road Transport (General) Act 1999. s. 230 (3) (4)* *Road Transport (Driver Licensing) Act 1999, s. 28* *Road Transport (Driver Licensing) Regulation 2000, s. 15, 15A, 69, 70 and 78*	An individual carrying out a certain test or examination (i.e. medical practitioners, optometrists, occupational therapists, physiotherapists). An individual.	An individual is not civilly or criminally liable for carrying out a test or examination in accordance with the regulation made under the *Road Transport (Driver Licensing) Act 1999* and expressing to the road transport authority, in good faith, an opinion formed because of having carried out the test or examination. An individual is not civilly or criminally liable for reporting to the road transport authority, in good faith, information that discloses or suggests that someone else is or may be unfit to drive or that it may be dangerous to allow someone else to hold, to be issued or to have renewed, a driver licence or a variation of a driver licence.	There is no mandatory reporting requirement for practitioners.
New South Wales *Road Transport Act 2013. s. 275 (3) & (4)* *Road Transport Act 2013, Schedule 1* *Road Transport (Driver Licensing) Regulation 2008, c. 50*	An individual carrying out a certain test or examination (i.e. medical practitioners, optometrists, occupational therapists, physiotherapists). An individual.	An individual does not incur civil or criminal liability for carrying out a test or examination in accordance with statutory rules made for the purposes of driver licensing and expressing to the authority in good faith an opinion formed as a result of having carried out the test or examination. An individual does not incur civil or criminal liability for reporting to the authority, in good faith, information that discloses or suggests that another person is or may be unfit to drive or that it may be dangerous to allow another person to hold, to be issued or to have renewed, a driver licence or a variation of a driver licence.	There is no mandatory reporting requirement for practitioners.
Northern Territory *Motor Vehicles Act 1999, s. 11*	A registered person means a medical practitioner, an optometrist, an occupational therapist or a physiotherapist who is registered under the applicable Acts.	Not covered in legislation.	If a registered person reasonably believes that a person they have examined is licensed to drive a motor vehicle and is physically or mentally incapable or driving a motor vehicle with safety to the public or is physically or mentally unfit to be licensed, the registered person must notify the registrar in writing of the person's name and address and the nature of the incapacity or unfitness. No express indemnity is provided under s. 11.

Legislation/ Jurisdiction	Applies to	Discretionary reporting	Mandatory reporting
Queensland *Transport Operations (Road Use Management) Act 1995, s. 142*	A person registered under the Health Practitioner Regulation National Law to practise in the medical profession, other than as a student.	A health professional is not liable, civilly or under an administrative process, for giving information in good faith to the chief executive about a person's medical fitness to hold, or to continue to hold, a Queensland driver licence. Without limiting this, in a civil proceeding for defamation, a health professional has a defence of absolute privilege for publishing the information. Additionally, if the health professional would otherwise be required to maintain confidentiality about the information under an Act, oath, rule of law or practice, the health professional does not contravene the Act, oath, rule of law or practice by disclosing the information and is not liable to disciplinary action for disclosing the information.	There is no mandatory reporting requirement for practitioners.
South Australia *Motor Vehicles Act 1959, s. 148*	A legally qualified medical practitioner, a registered optician or a registered physiotherapist.	Not covered in legislation.	Where a legally qualified medical practitioner, a registered optician or a registered physiotherapist has reasonable cause to believe that a person whom they have examined holds a driver licence or a learner permit and that person is suffering from a physical or mental illness, disability or deficiency such that, if the person drove a motor vehicle, they would be likely to endanger the public, then the medical practitioner, registered optician or registered physiotherapist is under a duty to inform the registrar in writing of the name and address of that person, and of the nature of the illness, disability or deficiency from which the person is believed to be suffering. Where a medical practitioner, registered optician or registered physiotherapist furnishes such information to the registrar, they must notify the person to whom the information relates of that fact and of the nature of the information furnished. No civil or criminal liability is incurred in carrying out the duty imposed.

Legislation/ Jurisdiction	Applies to	Discretionary reporting	Mandatory reporting
Tasmania *Vehicle and Traffic Act 1999, ss. 63 (2) and 56* *Vehicle and Traffic Act 1999, s. 63 (1)*	A person.	A person incurs no civil or criminal liability for reporting to the registrar, in good faith, the results of a test or examination carried out under the Act or an opinion formed as a result of conducting such a test or examination. Section 56 deals with tests and examinations of drivers. A person incurs no civil or criminal liability for reporting to the registrar, in good faith, that another person may be unfit to drive a motor vehicle.	There is no mandatory reporting requirement for practitioners.
Victoria *Road Safety Act 1986, s. 27 (4)* *Road Safety (General) Regulations 2009, r. 68*	A person carrying out a test under Section 27 (i.e. registered medical practitioners, optometrists, occupational therapists, and other people authorised in writing by VicRoads). A person who expresses an opinion to VicRoads formed as a result of the test.	No action may be taken against a person who carries out a test to determine if a person is unfit to drive or if it is dangerous for that person to drive) and who expresses to VicRoads an opinion formed by that person as a result of the test. No action may be taken against a person who, in good faith, reports to VicRoads any information that discloses or suggests that a person is unfit to drive or that it may be dangerous to allow that person to hold or to be granted a driver licence, a driver licence variation or a learner permit.	There is no mandatory reporting requirement for practitioners.
Western Australia *Road Traffic (Administration) Act 2008, s. 136*	A person.	People expressing an opinion to the Director General formed as a result of carrying out a test or examination under the provisions of the Act are protected from liability when acting in good faith. An action in tort does not lie against a person, and a person is not to be prosecuted for an offence, for reporting to the CEO, in good faith, information that discloses or suggests that: (a) another person is or may be unfit to drive, or (b) it may be dangerous to i. allow another person to hold a driver licence or learner's permit, or ii. grant a driver licence or learner's permit to another person, or iii. vary or not to vary, another person's driver licence or learner permit.	There is no mandatory reporting requirement for practitioners.
* Where changes are anticipated, health professionals are advised to check with the driver licensing authority (refer to Appendix 9: Driver licensing authority contacts).			

Appendix 4: Drivers' legal BAC limits

Summary of State and territory laws on BAC and driving (as at September 2015)		
State/Territory	**Drivers of cars and light trucks, motorcycle riders**	**Drivers of trucks, taxis, buses and private hire cars**
Australian Capital Territory	The legal BAC limit applying to learner, provisional and probationary drivers, drivers classed as 'special drivers' and restricted licence holders is **zero BAC**. The legal limit for drivers of cars, trucks and buses (excluding public vehicles) up to 15 tonnes GVM and riders of motorcycles who hold a full licence (gold) is below **0.05 BAC**.	The legal BAC limit applying to drivers of heavy motor vehicles exceeding 15 tonnes GVM, dangerous goods vehicles, public vehicles (taxis, buses and private hire cars) and Commonwealth chauffeur cars is **zero BAC**.
New South Wales	A **zero BAC** limit applies to all learner licence holders, provisional P1 licence holders, provisional P2 licence holders and interlock licence holders (where the licence was issued on or after 1 February 2015). For drivers not listed elsewhere it is **0.05 BAC**.	For drivers of trucks over 13.9 tonnes GVM, all drivers of public passenger vehicles within the meaning of the *Passenger Transport Act 1990* and drivers of any vehicles carrying dangerous goods or radioactive substances it is **0.02 BAC**.
Northern Territory	For unlicensed and learner drivers, provisional licence holders, drivers under 25 with less than three years' experience it is **zero BAC**. For drivers not listed elsewhere it is **0.05 BAC**.	For drivers of vehicles over 15 tonnes GVM, public passenger vehicles, dangerous goods vehicles, vehicles with people unrestrained in an open load space and vehicles carrying more than 12 people; and for driving instructors while instructing, licensed drivers under the age of 25 who have been licensed for less than three years it is **zero BAC**. For drivers not listed elsewhere it is **0.05 BAC**.
Queensland	For learner licence holders, probationary licence holders, provisional licence holders, class RE licence holders for the first year of holding a motorbike licence, restricted licence holders, licence holders subject to a 79E order, interlock drivers, driver trainers while giving driver training and unlicensed drivers it is **zero BAC**. For drivers not listed elsewhere it is **0.05 BAC**.	For drivers of trucks, public passenger vehicles, articulated motor vehicles, B-doubles, road trains, vehicles carrying placard load of dangerous goods, tow trucks and pilot or escort vehicles it is **zero BAC**. For drivers not listed elsewhere it is **0.05 BAC**.
South Australia	For learner permit holders and provisional and probationary licence holders it is **zero BAC**. For drivers not listed elsewhere it is **0.05 BAC**. Note that unlicensed drivers are also subject to **zero BAC**.	For drivers of vehicles over 15 tonnes GVM, prime movers with an unladen mass less than 4 tonnes, taxis, buses, licensed chauffeured vehicles and vehicles carrying dangerous goods it is **zero BAC**.
Tasmania	For unlicensed and learner drivers, provisional licence holders, people convicted of causing death driving a motor vehicle, people with three or more drink-driving convictions in 10 years it is **zero BAC**. For drivers not listed elsewhere it is below **0.05 BAC**.	For drivers of all public passenger vehicles (e.g. buses and taxis) and vehicles exceeding 4.5 tonnes GVM it is **zero BAC**.

Summary of State and territory laws on BAC and driving (as at September 2015)		
State/Territory	**Drivers of cars and light trucks, motorcycle riders**	**Drivers of trucks, taxis, buses and private hire cars**
Victoria	For car and motorcycle learner and probationary drivers, people who get their licence or permit back after being disqualified from driving (this applies for three years from that date); people who have an interlock condition on their licence; professional driving instructors; motorcyclists in the first three years of holding a licence; and drivers with a Z condition on their licence it is **zero BAC**. Otherwise below **0.05 BAC**.	For drivers of vehicles over 15 tonnes GVM, all taxi and bus drivers, and some emergency vehicle drivers it is **zero BAC**. Otherwise **0.05 BAC**.
Western Australia	Novice drivers (licence held less than two years): **zero BAC** Not a novice driver: **0.05 BAC** Except : - provisional licence holders (not novice drivers) - extraordinary licence holders - drivers who have been convicted of a prescribed alcohol-related offence after 1 January 1998 must not drive with a blood alcohol concentration equal to or exceeding **0.02 BAC** for a period of three years.	Novice drivers (licence held less than two years): **zero BAC** Not a novice driver: **0.05 BAC** Except : - provisional licence holders (not novice drivers) - extraordinary licence holders - drivers who have been convicted of a prescribed alcohol-related offence after 1 January 1998 must not drive with a blood alcohol concentration equal to or exceeding **0.02 BAC** for a period of three years.

Appendix 5: Alcohol interlock programs

Summary of State and territory laws on alcohol interlocks and driving	
Australian Capital Territory	The Australian Capital Territory's alcohol interlock program commenced on 17 June 2014. High-risk drink-driving offenders (high range and habitual drink-driving offenders) are required to participate in the ACT alcohol interlock program as a mandatory condition of relicensing. For these high-risk offenders, participation in the program may include a court-ordered therapeutic component as well as a requirement to drive only a vehicle fitted with an interlock device. All high-risk offenders are required to undergo a pre-sentence assessment by the Court Alcohol and Drug Assessment Service. Voluntary participation is an option for other drink-driving offenders, who may reduce their total disqualification period by agreeing to participate in, and comply with, an alcohol interlock program. These offenders may elect to apply for a probationary licence, which will be issued subject to an interlock condition, at any time during their disqualification period. High-risk offenders who obtain an exemption from participation in the scheme are required to complete their full disqualification period before applying for a probationary licence. Exemptions are available only where special circumstances exist. There is a six-month minimum program participation period, with program participants required to demonstrate a continuous period of three months' compliance with the interlock program (i.e. no alcohol detected in the person's breath samples) and compliance with any treatment order before the interlock condition may be removed. Further information can be found on the ACT Road Transport Authority website at <http://www.rego.act.gov.au/licence/act-road-rules,-laws-and-publications/alcohol-ignition-interlock-program>.
New South Wales	The New South Wales Mandatory Alcohol Interlock Program commenced on 1 February 2015. High-range and repeat drink-driving offenders are required to participate in the program (the blood alcohol content is zero), unless the court makes an interlock exemption order. The requirements apply to specific offences declared 'alcohol related major offences' in s. 209 of the *Road Transport Act 2013*. Interlock orders may also be made by a court if a person is convicted of dangerous driving offences as prescribed in s. 52A of the *Crimes Act 1900* where the offence involved the presence of alcohol. The holder of a licence subject to mandatory alcohol Interlock licence conditions, in addition to other conditions that may apply to the licence, must not drive a motor vehicle with a placard load within the meaning of the Dangerous Goods (Road and Rail Transport) Regulation 2014. At the end of a court-ordered interlock period, Roads and Maritime Services may refer interlock licence holders to a medical professional for assessment under the *Assessing Fitness to Drive* guidelines if interlock data indicate that further medical assessment for substance misuse may be required. Based on the recommendation of the medical professional, Roads and Maritime can extend the interlock condition for a further six months. At the end of this period, these drivers will be required to undertake another fitness to drive assessment before they complete the program. Further information can be found on the Roads and Maritime website at <http://www.rms.nsw.gov.au/roads/safety-rules/offences-penalties/drug-alcohol/interlock-program.html>.

Summary of State and territory laws on alcohol interlocks and driving	
Northern Territory	The Northern Territory's Alcohol Interlock Program was introduced in 2009. The program applies to repeat drink-drivers convicted of a relevant offence on a second and subsequent occasion including: driving with a high-range blood alcohol content (BAC of 0.15 per cent or greater); driving with a medium-range blood alcohol content (BAC of 0.08 per cent or greater, but less than 0.15 per cent); driving under the influence of alcohol or both alcohol and a drug; failing to provide a sufficient sample of breath for a breath analysis; failing to give a sample of blood for analysis; or driving with alcohol in the blood if the driver is subject to a zero alcohol limit. The program is a period of driving under conditions, which include the requirement to drive a vehicle fitted with an alcohol ignition lock (AIL). The court may, in addition to disqualifying a person from driving for a mandatory period, order an AIL period ranging from six months to three years. When the mandatory disqualification period ends, a person can apply for an AIL licence and have an AIL device installed by an approved supplier or, if they opt not to drive, serve out the court-imposed AIL period as an additional disqualification period. To obtain an AIL licence a person must have held a driver licence other than a learner licence within the previous five years and completed the drink-driver education course relevant to the offence. Further information can be found on the Northern Territory Department of Transport website at <https://nt.gov.au/driving/driving-offences-and-penalties/alcohol-ignition-lock-order/introduction>.
Queensland	Drink-drivers who are convicted of driving while over the alcohol limit, driving under the influence of alcohol, failing to provide a breath specimen for analysis, dangerous driving when adversely affected by alcohol, or two or more drink-driving offences of any kind within a five-year period are subject to Queensland's Alcohol Ignition Interlock Program. Drivers subject to the program must comply with the no-alcohol limit at all times when driving and only drive a vehicle that has been nominated to the department and fitted with an approved interlock. To complete the program a person must hold a valid licence with an 'I' (interlock) condition and have an approved interlock installed in a nominated vehicle for a minimum period of one year. If a person chooses not to have an approved interlock installed, they are not allowed to drive for two years from the end of their disqualification period for the drink-driving offence. Exemptions are available only where special circumstances exist. Further information can be found on the Queensland Government website at <https://www.qld.gov.au/transport/safety/road-safety/drink-driving/penalties/interlocks/index.html>.
South Australia	The Mandatory Alcohol Interlock Scheme (MAIS) commenced in South Australia in 2009. This scheme is an administrative scheme administered by the Registrar of Motor Vehicles under s. 81E of the *Motor Vehicles Act 1959*. All people who commit a serious drink-driving offence are liable to the scheme on returning to driving after completion of the court-imposed disqualification period. A serious drink-driving offence is defined as: a second or subsequent offence, within a period of five years, of driving with a BAC at or above 0.08; driving with a BAC at or above 0.15; driving under the influence of an intoxicating liquor; or refusing to provide a sample of breath or blood for the purpose of alcohol testing. The conditions apply for a period equal to the disqualification period ordered by the Magistrates Court plus any immediate loss of licence suspension issued by the South Australia Police, to a maximum of three years. The MAIS requires the person to nominate a vehicle(s) that he/she will drive for the period the conditions apply and to have an alcohol interlock device fitted to the vehicle(s). The person must not operate any other vehicles. Exemptions are available only where special circumstances exist. Licence holders who are assessed by an approved assessment clinic as dependent on alcohol can make an application to the Registrar of Motor Vehicles for a licence subject to an interlock condition. If approved the person is granted a licence subject to the interlock condition; this condition can only be removed where the licence holder is assessed by an approved assessment clinic as non-dependent on alcohol. If the person does not agree to the interlock condition, they are refused the issue of a licence until they are assessed as non-dependent. Further information can be found on the South Australian Department of Planning, Transport and Infrastructure website at <http://www.dpti.sa.gov.au/towardszerotogether/Safer_behaviours/alcohol_drink_driving2/mandatory_interlock_scheme_faqs>.

Summary of State and territory laws on alcohol interlocks and driving	
Tasmania	Drivers convicted of drink-driving offences are subject to Tasmania's Mandatory Alcohol Interlock Program (MAIP). The scheme is administered by the Registrar of Motor Vehicles under the Vehicle and Traffic (Driver Licensing and Vehicle Registration) Regulations 2010. The program applies to drivers convicted of: a drink-driving offence recording a BAC of 0.15 or more; two or more drink-driving offences in a five-year period; driving under the influence of liquor; or failing to provide a breath/blood specimen for analysis. Participants serve a disqualification period and then are required to have an interlock installed in a nominated vehicle at the conclusion of their disqualification and before their driver licence can be issued/reissued. Tasmania's program is a minimum of 15 months consisting of a nine-month 'learning period' and a six-month 'demonstration period'. There are limited grounds for exemption to participating in the Tasmanian MAIP. Further information can be found on the Tasmanian Department of State Growth website at <http://www.transport.tas.gov.au/licensing/offences/interlocks>.
Victoria	New laws relating to alcohol interlocks came into effect in Victoria in October 2014. Under these laws, alcohol interlocks are mandatory for: *every first offender who has a probationary licence or learner permit (at any BAC level); other drivers who have a BAC of 0.07 to 0.15; drivers with a BAC under 0.07 whose licences are cancelled, including professional drivers of buses, taxis and vehicles over 15 tonnes; all repeat offenders with a BAC reading under 0.07; and first serious alcohol-related offences under the *Sentencing Act 1991*, such as culpable driving involving alcohol. Any driver or motorcycle rider whose driver licence and/or learner permit is cancelled, or who is otherwise disqualified due to a drink-driving offence committed on or after 1 October 2014, will be required to install an alcohol interlock in any vehicle they drive or ride as a condition of relicensing. The length of time drivers will be required to have an alcohol interlock installed ranges from at least six months for a first offence and up to four years or more for serious and repeat offences. * From 1 October 2014, any learner permit and/or probationary licence holders with a first BAC offence between zero and less than 0.05 will have a three-month licence cancellation and an alcohol interlock condition of at least six months. Further information can be found on the VicRoads website at <https://www.vicroads.vic.gov.au/licences/demerit-points-and-offences/drink-driving-offences/changes-to-the-alcohol-interlock-program>.
Western Australia	From October 2016, high-end and repeat drink-drivers who commit offences will be subject to Western Australia's Alcohol Interlock Program under the *Road Traffic Amendment (Alcohol Interlocks and Other Matters) Act 2015*. Offences include first-time driving under the influence of alcohol offences; first-time failure to provide breath, blood or urine sample offences; first-time dangerous driving causing death, bodily harm or grievous bodily harm offences where the offender is under the influence of alcohol to such an extent as to be incapable of having proper control of a vehicle; and second or subsequent drink-driving offences of any kind within a five-year period. Drivers convicted of alcohol-related offences on seeking authorisation to drive will have their licence endorsed with an interlock condition restricting their driving to vehicles fitted with an approved alcohol interlock device. The period a driver is required to have an interlock installed in their vehicle is referred to as the 'restricted driving period'. The disqualification imposed by the courts and the type of licence granted to a person will determine the length of the restricted driving. The program includes support by means of an alcohol assessment and treatment component and extension of time on the interlock devices for those found to be noncompliant. Further information can be found on the Western Australia Road Safety Commission website at <https://www.rsc.wa.gov.au/Documents/Law-Changes/rsc-alcohol-interlocks-fact-sheet.aspx>.

Appendix 6: Disabled car parking and taxi services

(as at January 2016)

People suffering substantial levels of disability may be eligible for disabled parking permits and discount taxi fares. The practitioner should direct enquiries to the contacts shown below. Taxi subsidies may be available only to those physically unable to use public transport.

Contacts of transport assistance for people with disabilities		
State/Territory	**Disabled parking permits**	**Taxi services**
Australian Capital Territory	Road User Services PO Box 582 Dickson ACT 2602 (02) 6207 7000	ACT Taxi Subsidy Scheme GPO Box 158 Canberra ACT 2601 (02) 6205 1012 or (02) 6207 1930 actaxischeme@act.gov.au
New South Wales	Service NSW 13 22 13 www.service.nsw.gov.au info@service.nsw.gov.au	Taxi Transport Subsidy Scheme Locked Bag 5067 Parramatta NSW 2124 1800 623 724
Northern Territory	Contact your local council.	Commercial Passenger Vehicles Branch Department of Transport GPO Box 2520 Darwin NT 0801 (08) 8924 7580
Queensland	Disabled Parking Department of Transport and Main Roads PO Box 673 Fortitude Valley QLD 4006 13 23 80	Taxi Subsidy Scheme TransLink Division Department of Transport and Main Roads PO Box 13347 Brisbane QLD 4003 1300 134 755
South Australia	Department of Planning, Transport and Infrastructure GPO Box 1533 Adelaide SA 5001 13 10 84	Public Transport Division Department of Planning, Transport and Infrastructure GPO Box 1533 Adelaide SA 5001 1300 360 840
Tasmania	Transport Access Scheme Department of State Growth GPO Box 1242 Hobart TAS 7001 1300 135 513	Transport Access Scheme Department of State Growth GPO Box 1242 Hobart TAS 7001 1300 135 513

Contacts of transport assistance for people with disabilities		
State/Territory	**Disabled parking permits**	**Taxi services**
Victoria	Contact your local council.	Victorian Taxi Services Commission GPO Box 1716 Melbourne VIC 3001 1800 638 802 (toll free for fixed landlines only) www.taxi.vic.gov.au
Western Australia	ACROD PO Box 184 Northbridge WA 6865 (08) 9242 5544 (Monday–Friday, 9am–4pm) www.app.org.au app@app.org.au	Taxi Users Subsidy Scheme Department of Transport GPO Box C102 Perth WA 6839 1300 660 147

Appendix 7: Seatbelt use

Relevance to driving task

The use of seatbelts is compulsory in Australia for drivers of all motor vehicles. This includes drivers of trucks and buses but excludes taxi drivers in Queensland (while carrying passengers). It has been reported that unrestrained occupants are more than three times more likely to be killed in the event of a crash than those who wear seatbelts.

The granting of an exemption from the use of seatbelts places an individual's safety at considerable risk. **For a person who is otherwise medically fit to drive, there are very few circumstances in which a medical condition will render a person unable to wear a seatbelt.**

Requests relating to seatbelt exemptions

Individuals may request a medical certificate recommending or granting exemption (depending on the state or territory); however, exemptions based on most medical grounds are considered invalid. Health professionals are discouraged from providing letters stating that the use of a seatbelt is not required.

In conditions such as obesity, health professionals should advise the patient to have the seatbelt modified and an inertia seatbelt fitted. In conditions in which there are scars to the chest or abdomen (**i.e. post surgery/injury**), the patient should be advised about the use of padding to prevent any problems of seatbelt irritation.

It must be stressed that exemptions due to any medical condition should be an extremely rare exception to the uniformity of a rule that enforces the legal obligation of a driver to wear a seatbelt if fit to drive.

Medical certificate regarding exemption

If a health professional recommends or grants (depending on state or territory law) an exemption, they must accept responsibility for granting the exemption. **In order to comply with the requirements of the driver licensing authority**, a certificate of exemption (or recommendation for exemption) should be issued in the following manner:

- The certificate must be dated and issued on the practitioner's letterhead (except in Queensland and Tasmania, refer below).
- The certificate must state the name, address, sex and date of birth of the person for whom the exemption is requested.
- The certificate must state the reason for which the exemption is requested.
- **The date the exemption expires must be clearly stated**. It should not exceed one year from the date of issue of the certificate except for musculoskeletal conditions or deformities of a permanent nature. The certificate may not be legally valid without this date.
- In **Victoria** a registered medical practitioner must issue the certificate stating that, because of medical unfitness or physical disability, it is impractical, undesirable or inexpedient that the person wears a seatbelt. Any conditions stated in the certificate must be complied with.
- In **Queensland** an approved exemption certificate (form F2690) may be completed by the practitioner. Seatbelt exemption certificates in Queensland must only be issued for a maximum period of 12 months. Contact details are listed in Appendix 9: Driver licensing authority contacts.
- In **Tasmania** a special application form is required for exemption applications. See the website at <www.transport.tas.gov.au/licensing/exemptions> for further information. Contact details are listed in Appendix 9: Driver licensing authority contacts.
- In the **Northern Territory** a medical recommendation that clearly indicates that these guidelines have been referred to in reaching the exemption recommendation is required. All such recommendations should be sent to the Registrar of Motor Vehicles. Contact details are in Appendix 9: Driver licensing authority contacts.
- Inform the patient that the certificate must be carried when travelling in motor vehicles without using a seatbelt and must be shown to police and authorised officers when requested.
- **All health professionals and licensing authorities should keep a record of all exemptions granted or recommended and document the reasons for exemption in case litigation occurs.**

Medical exemptions

The table below suggests guidelines for possible exemptions.

Seatbelt exemptions	
Condition	**Exemption**
Ileostomies and colostomies	No exemption. In normal circumstances, a properly worn seatbelt should not interfere with external devices. An occupational therapist can advise on seatbelt adjustments in other cases.
Musculoskeletal conditions and deformities	Exemption possible for passengers only, depending on the exact nature of the condition.
Obesity	Modification of restraint advised. If not feasible, an exemption is possible.
Pacemakers	No exemption. If the pacemaker receives a direct compression force from a seatbelt, the device should be checked for malfunction.
Physical disability	No exemption. Advise patient about correct fitting.
Pregnancy	No exemption. Advise patient about correct fitting.
Psychological conditions	No exemption. Claustrophobia from seatbelt use can be overcome; if the condition is severe, refer the patient to a specialist.
Scars and wounds	No exemption. Advise the patient about the use of protective padding.

Appendix 8: Helmet use

Relevance to driving/riding tasks

There is a large body of research that demonstrates the effectiveness of helmets in reducing injury to motorcyclists. Research studies have been conducted in countries where helmet use is voluntary, comparing crash experiences of users with non-users. The significant benefits of motorcycle helmets have also been measured in countries that have changed from voluntary helmet use to compulsory use.

Helmets are also beneficial for bicyclists. Research indicates that helmets greatly reduce the risk of head injuries, which are the major cause of death and injury to bike riders.[1–7]

Requests for helmet exemptions

It is compulsory for motorcyclists to wear helmets in Australia. Legislation does not allow for exemptions in New South Wales, Victoria, South Australia, Queensland and the Australian Capital Territory. In the Northern Territory, legislation does not permit exemption on medical grounds. Exemptions are possible in other states only under extremely rare conditions and should be strongly discouraged. Health professionals are urged to point out to patients the risk of severe disability or death compared with the relatively small advantages of an exemption from wearing a motorcycle helmet.

It is also compulsory for bicyclists to wear helmets in Australia. In those states or territories where exemptions are possible, applications should be strongly discouraged in view of the greater risk of injury and death. The table below shows the laws on exemption from wearing bicycle helmets by state and territory.

State and Territory laws on exemptions from wearing bicycle or motorcycle helmets (as at September 2015)

State/Territory	Motorcycle helmets	Bicycle helmets
Australian Capital Territory	No exemptions	No exemptions
New South Wales	No exemptions	No exemptions
Northern Territory	No medical exemptions	Bicycle helmets are not necessary for people who have attained the age of 17 years and who ride in a public place, on a footpath, shared path or cycle path (if separated from the roadway by a barrier) or in an area declared exempt by the transport minister.
Queensland	No exemptions	A person is exempt from wearing a bicycle helmet if the person is carrying a current doctor's certificate stating that, for a stated period: • the person cannot wear a bicycle helmet for medical reasons, or • because of a physical characteristic of the person, it would be unreasonable to require them to wear a bicycle helmet. A person is exempt if they are a member of a religious group and they are wearing a type of headdress customarily worn by members of the group and the wearing of the headdress makes it impractical for them to wear a bicycle helmet.
South Australia	No exemptions	Exemptions for Sikh religion only
Tasmania	Exemption possible on medical grounds at discretion of Transport Commission	Exemption possible on medical grounds at discretion of Transport Commission

State and Territory laws on exemptions from wearing bicycle or motorcycle helmets (as at September 2015)		
State/Territory	**Motorcycle helmets**	**Bicycle helmets**
Victoria	No exemptions	Exemptions possible on religious or medical grounds
Western Australia	No new motorcycle helmet exemption applications are granted; however, legislation allows exemptions granted on or before 30 November 2000 to be renewed prior to expiry, at the discretion of the Department of Transport with supporting evidence from a medical practitioner.	Exemption on medical or religious grounds. A medical certificate from a general practitioner is required; however, issue is at the discretion of the Department of Transport with supporting evidence from a medical practitioner.

Riding bicycles on footpaths

While many states and territories have exemptions for young children riding on footpaths, Victoria and New South Wales allows this practice for medical reasons and the rider must carry a letter of exemption from their treating medical practitioner.

Riding bicycles on footpaths	
New South Wales	A person may ride a bicycle on a footpath in situations where, other than a road, the footpath is the only other accessible path if the bicycle rider has a disability that makes it impracticable or unsafe for the cyclist to ride on the road, and the bicycle rider carries a medical certificate signed by a registered medical practitioner that: is on the medical practitioner's letterhead; clearly states the rider has a disability that makes it impracticable or unsafe for the rider to ride on the road; and shows the date of issue and specifies whether the condition is a permanent condition or a temporary condition. (Note that if the rider is suffering from a temporary condition, the letter from the medical practitioner is valid for 12 months.) When riding under this exemption the rider must comply with conditions stated on the medical certificate (if any), must carry the medical certificate at the time of riding the bicycle and must produce the medical certificate when requested to do so by a police officer or authorised person.
Victoria	A person may ride a bicycle on a footpath if carrying a letter of exemption from a legally qualified medical practitioner stating that it is undesirable, impractical or inexpedient for the rider to ride on a road because of a physical or intellectual disability. The letter must be on a medical practitioner's letterhead and show the date of issue and the date of expiry. The letter must specify that the rider has been advised of the requirement to slow down and give way to pedestrians at all times when riding on footpaths. The letter should specify that footpaths are to be used, avoiding, where practicable, footpaths in areas where pedestrian traffic is heavy.

References and further reading

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4. Macpherson A, Spinks A. Bicycle helmet legislation for the uptake of helmet use and prevention of head injuries. Cochrane Database of Systematic Reviews. 2008; Issue 3.
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6. SWOV (Institute for Road Safety Research, The Netherlands) Fact sheet: Bicycle helmets, 2012.
7. Thompson DC, Rivara F, Thompson R. Helmets for preventing head and facial injuries in cyclists. Cochrane Database of Systematic Reviews. 1999; Issue 4.

Appendix 9: Driver licensing authority contacts

(as at January 2016)

State/Territory	General contact details of driver licensing authority including heavy vehicle licensing	Health professional enquiries
Australian Capital Territory	Road User Services PO Box 582 Dickson ACT 2602 Phone: 13 22 81 Email: rus@act.gov.au Web: www.rego.act.gov.au	Licensing and Registration Team Road User Services PO Box 582 Dickson ACT 2602 Phone: (02) 6205 1577
New South Wales	Roads and Maritime Services Locked Bag 928 North Sydney NSW 2059 Phone: 13 22 13 Email: info@service.nsw.gov.au Web: www.rms.nsw.gov.au	Manager – Licence Review Unit Roads and Maritime Services Driver and Vehicle Administration Section Locked Bag 14 Grafton NSW 2460 Phone: (02) 6640 2821 Fax: (02) 6640 2894 Email: info@service.nsw.gov.au
Northern Territory	Department of Transport GPO Box 530 Darwin NT 0801 Phone: 1300 654 628 / (08) 8999 3111 Fax: (08) 8999 3103 Email: mvr@nt.gov.au Web: www.nt.gov.au/transport	Department of Transport Medical Licensing Compliance Officer GPO Box 530 Darwin NT 0801 Phone: (08) 8999 3153 Fax: (08) 8999 3103 Email: MVR.Medical@nt.gov.au Web: www.nt.gov.au/transport
Queensland	Department of Transport and Main Roads GPO Box 2451 Brisbane QLD 4001 Phone: 13 23 80 Web: www.tmr.qld.gov.au	Department of Transport and Main Roads GPO Box 2451 Brisbane QLD 4001 Phone: (07) 3066 2129 Web: www.tmr.qld.gov.au
South Australia	Department of Planning, Transport and Infrastructure GPO Box 1533 Adelaide SA 5001 Phone: 13 10 84 Fax: (08) 8343 2585 Email: DPTI.enquiriesadministrator@sa.gov.au Web: www.sa.gov.au	Manager – Licence Regulation Department of Planning, Transport and Infrastructure Locked Bag 700 GPO Adelaide SA 5001 Phone: (08) 8402 1946 Fax: (08) 8402 1977
Tasmania	Department of State Growth GPO Box 1002 Hobart TAS 7001 Phone: 1300 135 513 Fax: (03) 6233 5240 Email: dlu@stategrowth.tas.gov.au Web: www.transport.tas.gov.au	Medical Review Officer Registration and Licensing Services Department of State Growth GPO Box 1002 Hobart TAS 7001 Phone: (03) 6166 4887

State/Territory	General contact details of driver licensing authority including heavy vehicle licensing	Health professional enquiries
Victoria	VicRoads Medical Review PO Box 2504 Kew VIC 3101 Phone: 13 11 71 Fax: (03) 9854 2307 Email: medicalreview@roads.vic.gov.au Web: www.vicroads.vic.gov.au/licences/medical-conditions-and-driving/medical-review	VicRoads Medical Review PO Box 2504 Kew VIC 3101 Phone: (03) 8391 3224 Fax: (03) 9854 2307 Email: medicalreview@roads.vic.gov.au Web: www.vicroads.vic.gov.au/licences/medical-conditions-and-driving/medical-review
Western Australia	Department of Transport GPO Box R1290 Perth WA 6844 Phone: 13 11 56 Fax: 1300 669 995 Web: www.transport.wa.gov.au	Driver Suitability Services Department of Transport GPO Box R1290 Perth WA 6844 Phone: 1300 852 722 Email: driver.assessment@transport.wa.gov.au Web: www.transport.wa.gov.au

State/Territory	Public passenger vehicle driver licensing enquiries	Dangerous goods vehicle driver licensing enquiries
Australian Capital Territory	Refer to general contact details above.	Dangerous Goods Transport Worksafe ACT GPO Box 158 Canberra ACT 2601 Phone: (02) 6207 3000 Fax: (02) 6207 2009
New South Wales	Enrolment Processing Unit Roads and Maritime Services Locked Bag 5310 Parramatta NSW 2150 Phone: 1800 227 774 Fax: (02) 9891 8999	Department of Conservation and Environment PO Box A290 Sydney South NSW 1232 Phone: 13 15 55 or (02) 9995 5555 Fax: (02) 9995 6603
Northern Territory	Commercial Passenger Vehicles Branch Department of Transport GPO Box 2520 Darwin NT 0801 (08) 8924 7580	NT WorkSafe Department of Business GPO Box 3200 Darwin NT 0801 Phone: 1800 019 115 Fax: (08) 8999 5141
Queensland	Passenger Transport Authorisation Team Department of Transport and Main Roads PO Box 673 Fortitude Valley QLD 4006 Phone: (07) 3338 4994 Fax: (07) 3338 4640	Industry Accreditation and Licensing Team Department of Transport and Main Roads PO Box 673 Fortitude Valley QLD 4006 Phone: (07) 3066 2995 Fax: (07) 3066 2453
South Australia	Accreditation and Licensing Centre Department of Planning, Transport and Infrastructure PO Box 9 Marleston BC SA 5033 Phone: (08) 7109 8117 Fax: (08) 8297 3448	SafeWork SA Attorney-General's Department GPO Box 465 Adelaide SA 5001 Phone: 1300 365 255 Fax: (08) 8204 9200

State/Territory	Public passenger vehicle driver licensing enquiries	Dangerous goods vehicle driver licensing enquiries
Tasmania	Driver Licensing Unit Department of State Growth GPO Box 1002 Hobart TAS 7001 Phone: (03) 6166 4866	WorkSafe Tasmania PO Box 56 Rosny Park TAS 7018 Phone: 1300 366 322 (in Tasmania); (03) 6166 4600 Email: wstinfo@justice.tas.gov.au
Victoria	Victorian Taxi Services Commission Lower Ground Floor 1 Spring Street Melbourne VIC 3000 Phone: 1800 638 802 (toll-free for fixed landlines only) Email: via the website enquiry system Web: www.taxi.vic.gov.au	WorkSafe Victoria Advisory Service GPO Box 4293 Melbourne VIC 3001 Phone: 1300 852 562 Email: licensing@worksafe.vic.gov.au Web: http://www.worksafe.vic.gov.au/safety-and-prevention/licensing/worksafe-licence-types-and-fees/application-for-a-dangerous-goods-driver-licence
Western Australia	Refer to general contact details above.	Department of Consumer and Employment Protection, Resources and Safety Division 100 Plain Street East Perth WA 6004 Phone: (08) 9222 3333 Fax: (08) 9222 3430

Appendix 10: Specialist driver assessors

Contact for occupational therapist specialist driver assessors (as at September 2015)		
Region	**Organisation**	**Contact**
Australian Capital Territory	Driver Assessment and Rehabilitation Program (Canberra Hospital)	(02) 6244 2937
New South Wales	Occupational Therapy Australia – New South Wales	(02) 9648 3225
Northern Territory	Occupational Therapy Australia – Northern Territory	(07) 3397 6744
Queensland	Occupational Therapy Australia – Queensland	(07) 3397 6744
South Australia	Occupational Therapy Australia – South Australia	(08) 8342 0022
Tasmania	Occupational Therapy Australia – Tasmania	1300 682 878 or (03) 9415 2900
Victoria	VicRoads Medical Review https://www.vicroads.vic.gov.au/licences/medical-conditions-and-driving/medical-review/victorian-occupational-therapy-driver-assessors	(03) 8391 3224 (health professionals only) 13 11 71 (members of the public)
Western Australia	Occupational Therapy Australia – Western Australia	1300 OTAUST
	Independent Living Centre of WA (Inc.) – Helpline	1300 885 886 www.ilc.com.au
Occupational Therapy Australia has a listing of occupational therapists qualified in driver assessment. Visit the Occupational Therapy Australia website at <www.otaus.com.au>.		

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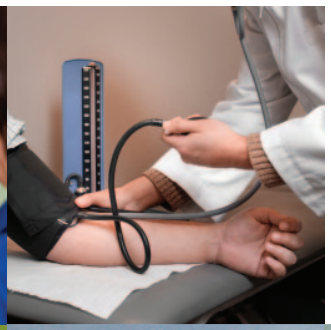

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