Steps for Assessing Fitness to Drive

The inevitability of driving cessation in people with different types of dementia, regardless of type, makes it essential to assess fitness to drive by conducting an in-office assessment at various stages of disease progression. This is important for the safety of people with dementia and the public. Given that a range of complex factors can affect driving ability, it's important to gather information from different perspectives during the assessment. It is equally important that you base your decision on the sum of the findings, rather than just from a specific component of the assessment. In addition, after the assessment, you must follow legislative requirements for your province or territory regarding reporting unsafe driving. Learn what it means to use a comprehensive approach to inform your decision and follow these steps to conduct an in-office assessment.

Use a comprehensive approach to inform your decision

An in-office assessment for fitness to drive cannot guarantee complete accuracy in predicting unsafe driving. However, it can reveal issues that may indicate that the person with dementia is no longer fit to drive.

Accordingly, it's important that you take an approach that considers the range of factors that can affect driving ability. This requires gathering information from different factors such as the type and severity of the dementia, driving history, physical examination, and cognitive testing. Then you should base your clinical decision on taking into consideration the sum of your findings—not just on a specific component of the assessment.

Follow these steps to ensure that your clinical decision is informed by the totality of your findings; in other words, that you take a cumulative approach. You can also download and print this summary to refer to while assessing fitness to drive.

Other resources that include elements (although not validated), that you should consider in conducting a comprehensive assessment of fitness to drive are the Clinical Assessment of Driving Related Skills (CADRes) and the Driving and Dementia Toolkit.

Step 1: Assess the type of dementia

Document these aspects of the dementia diagnosis.

Possible impact of different types of dementia on driving
Document the type of dementia because even early on, certain types of dementia may result in symptoms that can impact driving.

- **For example,** frontotemporal dementia: can present with very poor social judgement and impulsivity in addition to executive functioning deficits, which could be dangerous behind the wheel.
- **For example,** Lewy Body dementia: can present with hallucinations and motor disturbances, and fluctuating levels of alertness in addition to attention and visuospatial deficits, which could be dangerous behind the wheel.

Step 2: Assess the functional impact of dementia

Functional impact of dementia
Assess the functional impact of dementia because as the disease progresses, functional abilities decline that may affect driving ability.

Basic ADLs = dressing, transfers/mobility, toileting, showering, grooming (e.g., shaving, brushing teeth, combing hair, applying make-up), eating

IADLs = work/volunteer-related activities, medication management, financial management, shopping, meal preparation, use of technology, housework, hobbies

If any basic activities of daily living are impacted due to cognitive impairment, the severity of the dementia has progressed to the point where they are no longer safe to drive.

If 2 or more IADLs are impacted due to cognitive impairment (but no basic ADL impairment), it is likely that driving is impaired as well. If the person with dementia desires to continue driving, a comprehensive driving evaluation is strongly recommended.

Step 3: Assess other medical and psychiatric co-morbidities

Multiple medical and psychiatric conditions are common in older adults. Many of these conditions are associated with driving impairments, not only due to their symptoms, but also sometimes as a result of their treatments like medications/substances and adverse effects. Accordingly, document medical co-morbidities and medications/substances.

Medical co-morbidities
Determine if there are any medical conditions or mobility impairments that may negatively affect driving ability.

- Cancer
- Cardiovascular disease
- Chronic renal disease
- Hearing impairment
- History of falls
- Impaired ambulation
- Metabolic disease (e.g., diabetes mellitus and hypothyroidism)
- Musculoskeletal conditions (e.g., arthritis)
- Neurologic diseases (e.g., multiple sclerosis and Parkinson disease).
- Psychiatric illness
- Respiratory disease
- Sleep disorders (e.g., sleep apnea)
- Stroke
- Vision impairment

Medications/ substances
Indicate any medications or substances that can cause cognitive impairment like drowsiness, decreased focus, and/or slow reaction time.

For example:

- Alcohol, cannabis, benzodiazepines, narcotics, antipsychotics, sedatives, etc.
- Anticholinergic medications that can negatively impact cognition such as the following—muscle relaxants, tricyclics, antidepressants, antihistamines (OTC), antiemetics, antipruritics, antispasmodics, others

Step 4: Take a driving history

Document the person with dementia's perception of their driving ability and more importantly, family/friend carer perceptions.

Perceptions of the person with dementia

Ask if they have had any of the following driving incidents while keeping in mind that they may not realize or remember that their dementia is affecting their driving.

The presence or absence of the person with dementia's concerns may correlate poorly with on-road driving performance and outcomes. Therefore, it is important to also take a history from a family/friend carer.

Use the patient questionnaire from the appendix of the article by Iverson and colleagues (2010) to help identify people with dementia who may be at increased risk for unsafe driving. Other driving incidents to consider in your assessment include:

- Recent collisions, dents to the car or near misses, as well as traffic tickets or warnings from police.
- Concerning driving behaviours such as getting lost or needing a co-pilot, driving too fast or too slow, or unsafe turns (especially left-hand turns across traffic), lane changes or merging.
- Other warning signs such as missing stop signs, red lights or exits, hesitating or stopping at green lights and other drivers honking or making hand gestures.

Perceptions of the family/friend carer

- Family/friend carer perceptions of safe driving may be more accurate than those of the person with dementia due to loss of insight.
- However, evidence shows that if family/friends raise concerns about the driving of a person they care for, it is often indicative of their fitness to drive, but if the family/friends have no concerns about their driving, it is not necessarily indicative of driving ability.
- Ideally, their input is based on having recently been in the car while the person with dementia was driving.

- Ask about their experience and perceptions of the person with dementia's driving ability.
- Be mindful that some family members may be biased because they rely on the person with dementia to meet their transportation needs.
- Conversely, others may hold ageist views that older adults are generally unsafe drivers.
- They may be more forthcoming if you ask for their perspective while the person with dementia is not present.

Use the family or caregiver questionnaire from the appendix of the article by Iverson and colleagues (2010) to help identify people with dementia who may be at increased risk for unsafe driving. Other driving incidents to consider in your assessment include:

- Recent collisions, dents to the car or near misses, as well as traffic tickets or warnings.
- Concerning driving behaviours such as getting lost or needing a co-pilot, driving too fast or too slow, or unsafe turns (especially left-hand turns across traffic), lane changes or merging.
- Other warning signs such as missing stop signs, red lights or exits, or stopping at green lights and other drivers honking or irritated.

Also, ask family/friend carers questions such as the ones below. Also, ask yourself, as the healthcare provider the same questions.

- Would you get in a car that the person with dementia is driving?
- Would you allow a grandchild to get in the car that the person with dementia is driving?
- Would the person with dementia be able to break in time if a child ran after a ball in front of the car?

If concerns - take concerns seriously as red flags that the person with dementia's driving is unsafe.

If no concerns - consider that regardless of no concerns, driving may still be unsafe because family/friend carers may not be aware of or able to accurately gauge unsafe driving or they may be protecting the person with dementia or their own interests.

Step 5: Conduct a cognitive assessment

Use a general cognitive screening test to assess global cognition. Consider some of the cognitive tests listed below. However, keep in mind that no single test or battery of tests has sufficient sensitivity or specificity to solely determine unfit driving. Accordingly, include the cognitive examination findings as just one component of many for you to consider as part of a comprehensive assessment of fitness to drive. While conducting the examination, make sure that the person with dementia is wearing their glasses and/or hearing aids (as appropriate). Also, observe whether they are:

- Resistant to doing the test,
- Exhibiting hesitation, perseverative behaviour, anxiety or panic attacks,
- Slow in carrying out the cognitive tasks,
- Exhibiting irritability, impulsivity, distractibility, and/or
- Unable to understand the text, forgetting instructions, or making multiple corrections.

In addition, when interpreting the results for any cognitive test, make sure to take into account variables such as low formal education and history of poor performance on previous paper and pencil testing. Also, there are many other neuropsychological tests that are not included below. However, as previously mentioned, research has not found any test or test batteries sufficiently sensitive or specific on its own to accurately predict real-world driving. The key to informing your decision about the person with dementia's driving safety, is to combine information from the cognitive asessment with the other recommended aspects of the fitness to drive assessment.

Assess Global Cognition	• Administer a test such as the MMSE, the MoCA or the RUDAS.
Assess Processing Speed	• Administer Trail Making A. ◦ The Driving and Dementia Toolkit for Health Professionals (RGPEO, 2009) suggests a cut-off score for being **unsafe** to drive of 2 or more minutes, or 2 or more errors. However, these cut-offs have not been validated.
Assess Executive Functioning and Processing Speed	• Administer Trail Making B. ◦ The Driving and Dementia Toolkit for Health Professionals (RGPEO, 2009) suggests a cut-off score for being: **unsafe** to drive of 3 or more minutes or 3 or more errors; **unsure** to drive of 2-3 minute or 2 errors; and safe to drive of less than 2 minutes or 2

	errors. However, these cut-offs have not been validated. • Administer the Snellgrove Maze Test

Assess Visuospatial Skills	• Administer the:
	  ◦ Intersecting pentagons (item appears in MMSE)
	  ◦ Cube copying (item appears in MoCA and RUDAS)
	  ◦ Clock drawing test (also assesses executive function; a version of it appears in MoCA)

Assess Judgement and Insight	Ask about different hypothetical driving scenarios. For example, ask questions like: • What would you do if a garbage can rolled out in front of your car while you were driving? • Do you think that because you have dementia that eventually you will have to stop driving? • Are you having any problems with your memory or how fast you are able to think of things?

Step 6: Conduct a physical and neurological examination

Assess for motor and sensory skills needed to operate a vehicle. For instance, assess whether issues exist that make operating a car difficult such as problems with vision or restrictions in neck mobility that may impair blind spot checking; motor and sensory skills that can impact the ability to maneuver the steering wheel or operate the brake and accelerator pedals.

- Test visual acuity and visual fields.
- Assess mobility (e.g., administer a gait assessment or for a more formal assessment, use the Rapid Pace Walk Test or Get Up and Go).
- Assess range of motion of neck, shoulder, elbow, fingers, and ankles.
- Assess strength and sensation in the arms, legs, hands, feet.
- Assess for Parkinsonion features.
- Assess proprioception.

Step 7: Interpret the findings

Make your clinical decision regarding fitness to drive by reviewing the findings from steps 1-6. Consider the overall findings, not just one specific component of the assessment. Then use your clinical judgement to determine whether the person with dementia's driving is safe, unsafe, or if you are uncertain about it. There is no magic answer, rather you must consider all your findings from your assessment of their fitness to drive and then use your clinical judgement to interpret whether the person with dementia's driving is safe, unsafe or uncertain.

Keep in mind that if the person with dementia performs very poorly on testing with no contributing factors—such as poor English fluency, limited formal education or extreme anxiety—and there is a clear history that their cognitive impairment is impacting instrumental and basic activities of daily living, the person with dementia is not safe to drive.

- **Safe** = Clearly safe to drive; no concerns that warrant further testing at this time but follow up within 6 to 12 months.
- **Unsafe** = Clearly unsafe to drive; clear and high risk, advise the person with dementia not to drive and in jurisdictions with mandatory reporting, you must report them.
- **Uncertain** = Uncertain if safe to drive; further assessment is necessary such as a specialized driving assessment with an on-road component.

Step 8: Formulate the next steps

When clearly SAFE to drive

- Explain that although the person with dementia can temporarily continue to drive, that cessation is inevitable because of the progressive nature of most neurodegenerative disorders. As a result, it is important for everyone to be proactive by planning ahead for an alternative transportation plan.
- Help manage the emotional and practical impacts of inevitable cessation by having ongoing discussions about inevitable cessation. Also, recognize the stressors you face as the person who will eventually have to break the news regarding driving cessation.
- Make sure you are aware of your legal obligations regarding reporting unsafe drivers to provincial licensing authorities. Consequently, you know what to do when the dementia progresses to the point that the person with dementia is unfit to drive.
- Reassess the person with dementia's fitness to drive at least every 6-12 months or sooner if there are significant changes in cognition, behavior and/or functioning (e.g., IADLs and ADLs).

When clearly UNSAFE to drive

Driving cessation is one of the significant major life transitions that people go through later in life. Now that the time has come for cessation, similar to disclosing bad news regarding other areas of health care, how you tell the person with dementia and their family/friend carers about cessation can significantly mitigate the negative impact. Be empathetic regarding the many losses that driving may represent and be prepared for strong emotional reactions, providing validation and support if needed. Make sure that you allow enough time for the discussion. Try to bring the family/friend carer into the discussion so that they can help support the person with dementia after the appointment.

- Make it clear that the person with dementia is unfit to drive.
- Consider conveying the most salient medical reasons behind your decision, including dementia, but also other conditions such as significant eye pathology, medication, physical frailty, etc.
- Be empathic, but firm that you have determined that the person with dementia is unfit to drive and they need to stop driving immediately to keep the person with dementia and public safe.
- Emphasize that cessation must be immediate to avoid motor vehicle collisions, which can be fatal or cause serious injury to them, their passengers, pedestrians, and other road users possibly resulting in having to live with permanent injuries and guilt.
- Take a respectful and positive approach by characterizing the person with dementia as a responsible driver who surely understands their responsibility to give up driving before a crisis forces the issue (e.g., motor vehicle collision or injury from one).
- Explain that now that family/friend carers are aware that immediate cessation is necessary, they bear some of the responsibility for ensuring it happens.
- Review pertinent test results with the person with dementia and their family/friend carers to demonstrate the severity of the cognitive impairment.
- Document your decision in the person with dementia's clinical record and in a letter to them. Also give a copy to family/friend carers in case it the person with dementia forgets, loses or throws it out.
- Depending on your region, you may be legally obligated to report your decision about driving cessation to the provincial licensing authorities. In such cases, you can explain to the person with dementia that you are sorry you have to do so, but that you have no choice, it is the law. Then follow your province's reporting process.
- Work with the person with dementia - or recommend that their family/friend carers or other healthcare providers work with them - to develop an alternative transportation plan. This will help to ensure that the person with dementia is still able to get around and is as independent as possible.
- Explain that having to stop driving can lead to various practical, emotional, and health challenges that you will ty to help them with during follow-up appointments.
- Learn strategies to manage the emotional impact on everyone involved, including the stressors you face.

If the person with dementia continues to insist on driving:

- Remain firm that the person with dementia must stop driving immediately but do not argue as they may have limited insight or judgment.
- Advise that if the person with dementia is involved in a motor vehicle collision, they may be legally liable and held financially responsible and their insurer may not cover the cost.
- Explain that the person with dementia's clinical record is a legal document that can be subpoenaed. It includes the assessment results and that the person with dementia and family/friend carers have been informed that the person with dementia is unsafe to drive and has been advised to stop driving.
- Encourage family/friend carers to try to take steps to prevent the person with dementia from driving by, for example, hiding the car keys and/or suggesting that they gift the car to a family member in exchange for providing a number of rides.
- Get advice from your malpractice insurer if questions arise around the issue of driving that you have uncertainty about or if the person with dementia or family/friend carer threatens a lawsuit.

If you think that the person with dementia is putting themselves or others in imminent danger:

- Explain the situation to the police and include the officer's name and badge number in the person with dementia's clinical record. The police may indicate that they can only help if they observe the person driving unsafely.
- On your reporting form to the driving authorities, mark it as "Urgent". Keep a copy in your chart including the fax receipt.

When UNCERTAIN if safe to drive

- Explain the concerning findings across all components of the assessment, not just the cognitive test scores.
- Discuss the option of giving up driving now since eventually they will have to stop driving. Be empathetic regarding the many losses that driving may represent. At the same time, explain the potential danger to themselves and others if they continue driving, the potential for a law suit, and depending on your jurisdiction, your obligation to report them to licensing authorities.
- If they are not interested in cessation, then explain they will need to have a specialized driving assessment.

- Describe the purpose of a comprehensive driving evaluation for people with cognitive and other disabilities and that it includes both an off-road and on-road component and typically a significant fee.
- Refer them for the specialized driving assessment and follow-up on the results. If the assessment results deem the person with dementia:
  - Unfit to drive - follow the suggestions above regarding 'Clearly UNSAFE to drive.'
  - Still fit to drive - follow the suggestions above regarding 'When clearly SAFE to drive.'
- Be prepared for the future for when the time inevitably comes that you will have to tell the person with dementia that they have to give up driving. This includes working with the person with dementia - or recommending that their family/friend carers or other healthcare providers work with them - to develop an alternative transportation plan. This will help to ensure that the person with dementia is still able to get around and is as independent as possible.
- Continue to facilitate ongoing discussions and manage the emotional impact on everyone involved, including the stressors you face. Be sure to follow up with the patient/client at least six to twelve months or sooner if there are significant changes in cognition, behaviour or function.

For more information about how you can help people with dementia and their family/caregivers navigate the driving and dementia journey, please visit drivinganddementia.ca

References

American Geriatrics Society (2019). Clinician's Guide to Assessing and Counseling Older Drivers (4th Edition). ISBN: 978-1-886775-64-0

Canadian Council of Motor Transport Administrators (2021). National Safety Code. Standard 6: Determining Driver Fitness in Canada. SBN: 978-1-927993-69-9

Canadian Medical Association (2019). CMA driver's guide: determining medical fitness to operate motor vehicles. – 9.1 edition. Joule Inc. ISBN 978-1-897490-42-6 (softcover).– ISBN 978-1-897490-43-3 (PDF)

Carr, D.B., Barco, P.B., Wallendorf, M.J., Snellgrove, C. A., & Ott, B.R. (2011). Predicting road test performance in drivers with dementia. Geriatric Psychiatry, 59(11), 2112-2117. doi.org/10.1111/j.1532-5415.2011.03657.x

Folstein, M.F., Folstein, S.E., McHugh, P.R. (1975). "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. Journal of Psychiatric Research, 12(3),189-98. doi: 10.1016/0022-3956(75)90026-6.

Hird, M. A., Egeto, P., Fischer, C. E., Naglie, G., & Schweizer, T. A. (2016). A systematic review and meta-analysis of on-road simulator and cognitive driving assessment in Alzheimer's disease and mild cognitive impairment. Journal of Alzheimer's disease, 53(2), 713-729. DOI: 10.3233/JAD-160276

Iverson, D. J., Gronseth, G. S., Reger, M. A., Classen, S., Dubinsky, R. M., & Rizzo, M. (2010). Practice parameter update: evaluation and management of driving risk in dementia: report of the Quality Standards Subcommittee of the American Academy of Neurology. Neurology, 74(16), 1316-1324. DOI:https://doi.org/10.1212/WNL.0b013e3181da3b0f

Lee, L., & Molnar, F. (2017). Driving and dementia: Efficient approach to driving safety concerns in family practice. Canadian family physician, 63(1), 27-31.

Nasreddine, Z. S., Phillips, N. A., Bédirian, V., Charbonneau, S., Whitehead, V., Collin, I., ... & Chertkow, H. (2005). The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. Journal of the American Geriatrics Society, 53(4), 695-699.

Rapoport, M. J., Chee, J. N., Carr, D. B., Molnar, F., Naglie, G., Dow, J., ... & O'Neill, D. (2018). An international approach to enhancing a national guideline on driving and dementia. Current psychiatry reports, 20(3), 1-9. DOIhttps://doi.org/10.1007/s11920-018-0879-x

References

Shulman, K. I. (2000). Clock-drawing: is it the ideal cognitive screening test? International journal of geriatric psychiatry, 15(6), 548-561. https://doi.org/10.1002/1099-1166(200006)15:6<548::AID-GPS242>3.0.CO;2-U

Storey, J., Rowland, J., Conforti, D., & Dickson, H. (2004). The Rowland Universal Dementia Assessment Scale (RUDAS): A multicultural cognitive assessment scale. International Psychogeriatrics, 16(1), 13-31. doi:10.1017/S1041610204000043

Tombaugh, T. N. (2004). Trail Making Test A and B: normative data stratified by age and education. Archives of clinical neuropsychology, 19(2), 203-214. https://doi.org/10.1016/S0887-6177(03)00039-8

Vrkljan, B. H., Myers, A. M., Crizzle, A. M., Blanchard, R. A., & Marshall, S. C. (2013). Evaluating medically at-risk drivers: A survey of assessment practices in Canada: Évaluation des conducteurs médicalement vulnérables: un sondage des pratiques en matière d'évaluation au Canada. Canadian journal of occupational therapy, 80(5), 295-303.doi:10.1177/0008417413511788