Driving and Dementia
Practical Tips for the Family Physician

L. Lee, MCISc (FM), MD, CCFP(COE), FCFP
2017

C	Cognition	Dementia, delirium, depression, executive function, memory, judgment, psychomotor speed, attention, reaction time, and visuospatial function
A	Acute or fluctuating illness	Delirium, seizures, Parkinson disease, and syncope or presyncope (cardiac ischemia, arrhythmia, postural hypotension)
N	Neuromusculo-skeletal disease or neurological effects	Speed of movement, speed of mentation, level of consciousness, stroke, Parkinson disease, syncope, hypoglycemia, hyperglycemia, arthritis, cervical arthritis, and spinal stenosis
D	Drugs	Drugs that effect cognition or speed of mentation, such as benzodiazepines, narcotics, anticholinergic medications (e.g., tricyclic antidepressants, antipsychotics, oxybutynin, dimenhydrinate), and antihistamines
R	Record	Patient or family report of accidents or moving violations
I	In-car experiences	Patient or family descriptions of near accidents, unexplained damage to car, change in driving skills, loss of confidence or self-restriction, becoming lost while driving, others refusing to be driven by patient, need for assistance of a copilot (particularly concerning would be the need for cues to avoid dangerous situations that could result in a crash), and other drivers having to drive defensively to accommodate changes in the patient's driving skills
V	Vision acuity	Visual field defects, glare, contrast sensitivity, comfort driving at night
E	Ethanol use	Physician's opinion regarding whether ethanol use is excessive and whether alcohol is imbibed before driving

Canadian Medical Association. Determining fitness to operate motor vehicles: CMA Driver's Guide, 9th ed. Ottawa, 2017

Canadian Medical Association Driver's Guide

"In general, physicians should err on the side of reporting any potentially medically unfit driver. This is especially important in jurisdictions where there is mandatory reporting obligation."

- Discretionary reporting in
  - Alberta
  - Nova Scotia
  - Quebec
- MD protection for reporting in all provinces; in most, not admissible as evidence in legal proceedings

Canadian Medical Association. Determining fitness to operate motor vehicles: CMA Driver's Guide, 9th ed. Ottawa 2017

CMA Driver's Guide

- In patients with mild dementia, driving fitness should be reassessed every 6 to 12 months, or more frequently if the cognitive impairment progresses
- It is recommended that physicians administer more than one cognitive screening tool
- If cognitive tests such as MMSE, MOCA, Clock, Trails, or other in-office tests are markedly abnormal (where the results are specific and believable)…
  - Is the test result consistent with other evidence?
  - Use common sense – consider the severity of findings
- Cognitive screening alone cannot determine driving fitness

Canadian Medical Association. Determining fitness to operate motor vehicles: CMA Driver's Guide, 8th and 9th ed. Ottawa

Canadian Medical Association position…

Moderate to severe dementia is a contraindication to driving. Moderate dementia is defined as the inability to independently perform two or more instrumental activities of daily living (including medication management, banking, shopping, telephone use, cooking) or any basic activity of daily living (eating, dressing, bathing, toileting, transferring).

No test, including the Mini-mental State Examination (MMSE) has sufficient sensitivity or specificity to be used as a single determinant of driving ability. However, abnormalities on tests including the MMSE, clock drawing and Trails B should trigger further in-depth testing of driving ability.

- New impairment due to cognition
- Grade B, Level 3 evidence (based on expert opinion)

Canadian Medical Association. Determining fitness to operate motor vehicles: CMA Driver's Guide, 7th ed. Ottawa, 2006

Activities of Daily Living

INSTRUMENTAL ADL's

- Manage medications
- Handle money, bills, shop
- Use telephone
- Prepare food

BASIC ADL's

- Bathe/shower
- Walk
- Toilet
- Transfer (bed/chair)
- Feed self

Questions to Ask the Family

1. Do you or would you feel uncomfortable being a passenger when the person is driving?
2. In the last year has the person had any accidents or near misses or tickets for traffic violations (driving too slowly, failure to stop)?
3. Have you noticed the person self-restricting their driving habits (driving less or only familiar routes, or avoiding driving at night, in bad weather, or busy streets)?
4. Have there been occasions where the person has gotten lost or shown navigational confusion?
5. Have you or others seen unsafe or abnormal driving behavior or are cues/directions needed from a "copilot"?

Ontario 's Strategy for Alzheimer Disease and Related Dementia: Initiative #2

CMA Driver's Guide

To help you "get off the fence," ask yourself four questions:

1. Given the results of your clinical assessment, would you get in the car with the patient driving?
2. Given the results of your clinical assessment, would you let a loved one get in a car with the patient driving?
3. Given the results of your clinical assessment, would you want to be crossing a street in front of a car with the patient driving?
4. Given the results of your clinical assessment, would you want to have a loved one cross a street in front of a car with the patient driving?

Canadian Medical Association. Determining fitness to operate motor vehicles: CMA Driver's Guide, 8th ed. Ottawa, 2013

CMA Driver's Guide – 9th Edition

- Computerized testing – "there is insufficient evidence to support making licensing decisions based solely on their results"
- "novice driver's road tests is inappropriate for experienced drivers. Any road test for experienced drivers must include driving in unfamiliar surroundings, to test how the driver reacts to situations that differ from his or her daily routine."
- "Although use of the driver's own vehicle may reduce the level of stress, difficulty driving in an unfamiliar vehicle may indicate cognitive inflexibility that could have a negative effect upon fitness to drive."

Canadian Medical Association. Determining fitness to operate motor vehicles: CMA Driver's Guide, 9th ed. Ottawa 2017

CMA Driver's Guide – 9th Edition

- "Geographic limitations (i.e., restricting drivers to their local area) are not recommended for drivers with cognitive problems, especially those with dementia. In fact, recent guidelines on dementia recommend that any driver with dementia who requires imposition of licence restrictions to ensure driving safety should be suspended from driving completely."
- "Once the physician has made a report to the licencing authority, he or she has discharged his or her legal responsibility.
- "Physicians should also contact the CMPA if a patient threatens legal action for making a report to the licensing authority."
- "Medical conditions can make even the best drivers unsafe"
- Canadian Automobile Association Driving Costs, 2012: "it costs $13,654 to own and operate a mid-sized car, based on 32,000km driven per year."

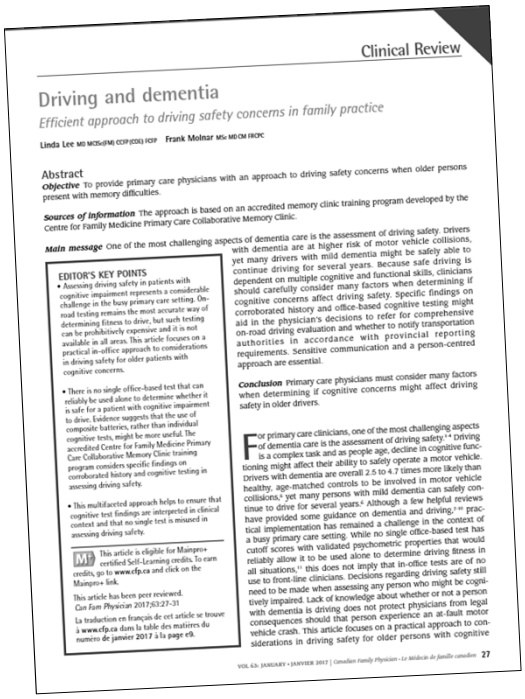
Canadian Medical Association. Determining fitness to operate motor vehicles: CMA Driver's Guide, 9th ed. Ottawa 2017

CMA Driver's Guide – 9th Edition

Compliance:

- "as many as 28% of people with dementia continue to drive, despite failing an on-road assessment."
- "should the physician become aware that a driver whose privileges are known to have been suspended is continuing to drive, the physician has no legal obligation to report the situation to any authority. However, there are ethical consideration… the physician is advised to contact the CMPA for advice and to document the reasons for deciding whether or not to make a follow-up report."

Canadian Medical Association. Determining fitness to operate motor vehicles: CMA Driver's Guide, 9th ed. Ottawa 2017



Clinical Review

Driving and dementia

Efficient approach to driving safety concerns in family practice

Linda Lee MD MCISc(FM) CCFP(COE) FCFP Frank Molnar MSc MD CM FRCPC

Abstract

Objective To provide primary care physicians with an approach to driving safety concerns when older persons present with memory difficulties.

Sources of information The approach is based on an accredited memory clinic training program developed by the Centre for Family Medicine Primary Care Collaborative Memory Clinic.

Main message One of the most challenging aspects of dementia care is the assessment of driving safety. Drivers with dementia are at higher risk of motor vehicle collisions, yet many drivers with mild dementia might be safely able to continue driving for several years. Because safe driving is dependent on multiple cognitive and functional skills, clinicians should carefully consider many factors when determining if cognitive concerns affect driving safety. Specific findings on corroborated history and office-based cognitive testing might aid in the physician's decisions to refer for comprehensive on-road driving evaluation and whether to notify transportation authorities in accordance with provincial reporting requirements. Sensitive communication and a person-centred approach are essential.

Conclusion Primary care physicians must consider many factors when determining if cognitive concerns might affect driving safety in older drivers.

EDITOR'S KEY POINTS

- Assessing driving safety in patients with cognitive impairment represents a considerable challenge in the busy primary care setting. On-road testing remains the most accurate way of determining fitness to drive, but such testing can be prohibitively expensive and it is not available in all areas. This article focuses on a practical in-office approach to considerations in driving safety for older patients with cognitive concerns.
- There is no single office-based test that can reliably be used alone to determine whether it is safe for a patient with cognitive impairment to drive. Evidence suggests that the use of composite batteries, rather than individual cognitive tests, might be more useful. The accredited Centre for Family Medicine Primary Care Collaborative Memory Clinic training program considers specific findings on corroborated history and cognitive testing in assessing driving safety.
- This multifaceted approach helps to ensure that cognitive test findings are interpreted in clinical context and that no single test is misused in assessing driving safety.

MAINPRO+ This article is eligible for Mainpro+ certified Self-Learning credits. To earn credits, go to **www.cfp.ca** and click on the Mainpro+ link.

This article has been peer reviewed.
Can Fam Physician 2017;63:27-31

La traduction en français de cet article se trouve à **www.cfp.ca** dans la table des matières du numéro de janvier 2017 à la page e9.

For primary care clinicians, one of the most challenging aspects of dementia care is the assessment of driving safety.[1-4] Driving is a complex task and as people age, decline in cognitive functioning might affect their ability to safely operate a motor vehicle. Drivers with dementia are overall 2.5 to 4.7 times more likely than healthy, age-matched controls to be involved in motor vehicle collisions,[5] yet many persons with mild dementia can safely continue to drive for several years.[6] Although a few helpful reviews have provided some guidance on dementia and driving,[7-10] practical implementation has remained a challenge in the context of a busy primary care setting. While no single office-based test has cutoff scores with validated psychometric properties that would reliably allow it to be used alone to determine driving fitness in all situations,[11] this does not imply that in-office tests are of no use to front-line clinicians. Decisions regarding driving safety still need to be made when assessing any person who might be cognitively impaired. Lack of knowledge about whether or not a person with dementia is driving does not protect physicians from legal consequences should that person experience an at-fault motor vehicle crash. This article focuses on a practical approach to considerations in driving safety for older persons with cognitive

Figure 1. Checklist of considerations in driving safety

- ☐ History of driving accidents or near accidents*
- ☐ Family member concerns*
- ☐ Trail Making A and B tests—for processing speed, "task switching," and visuospatial and executive function
- ☐ Clock-drawing test—for visuospatial and executive function
- ☐ Copying intersecting pentagons or cube—for visuospatial function
- ☐ Cognitive test scores—possibly helpful
- ☐ Dementia severity according to the Canadian Medical Association guidelines[20]—inability to independently perform 2 instrumental activities of daily living or 1 basic activity of daily living

*Ask the patient and a family member separately.

Lee L, Molnar FJ. Driving and dementia: An efficient approach to driving safety concerns in family practice. Canadian Family Physician. 2017;63(1):27-31

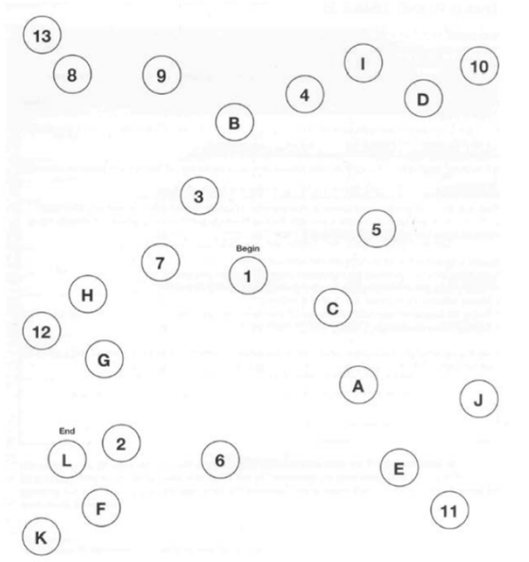
Considerations in Fitness to Drive

- ❑ History of driving accidents or near-accidents*
- ❑ Family member concerns*
- ❑ Trails A & B – for 'task switching', visuospatial and executive function
- ❑ Clock draw – for visuospatial and executive function
- ❑ Pentagons/cube– for visuospatial function
- ❑ Cognitive test scores – maybe
- ❑ CMA guidelines – inability to independently perform 2 instrumental ADLs or 1 basic ADL

*ask patient and family member separately

The Centre for Family Medicine FHT Memory Clinic

Trails B



Trails B

"On the paper are the numbers 1 through 13 and the letters A through L, scattered across the page. Starting with 1, draw a line to A, then to 2, then to B, and so on, alternating back and forth between numbers and letters until you finish with the number 13. I'll time how fast you can do this. Are you ready? Go."

If education or language is a concern, ask the patient to write down numbers 1-13 and letters A-L

Trails B

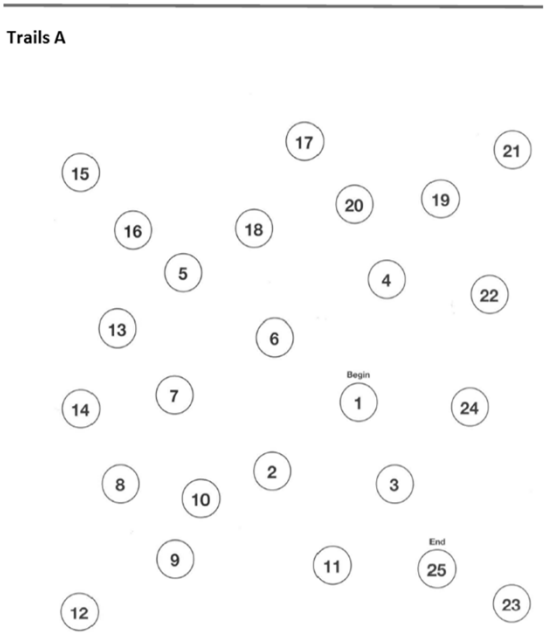
Tests “task switching”

- Completion time > 3 minutes or 3 or more errors suggests an unsafe driver
- Completion time of 2 – 3 minutes or 2 errors is unclear
- Completion time of < 2 minutes and 0 or 1 error is acceptable

Roy M, et al. Systematic review of the evidence for Trails B cut-off scores in assessing fitness-to-drive. Canadian Geriatrics Journal 2013;16(3)

Molnar, F.J. et al. Practical experience-based approaches to assessing fitness to drive in dementia. Geriatrics & Aging 2009;12(2)

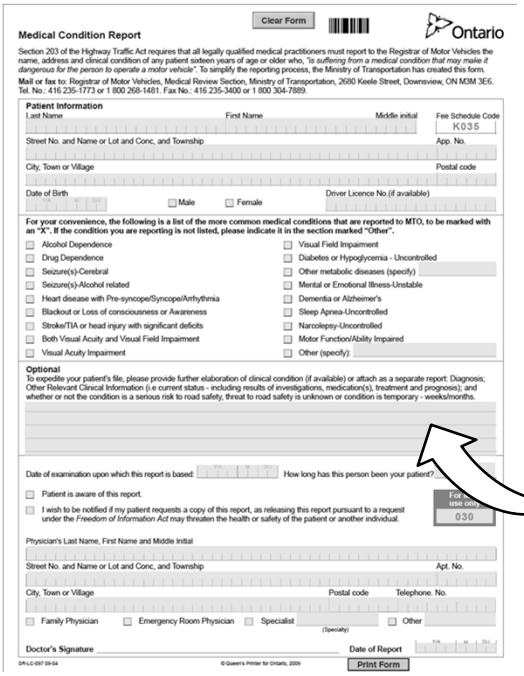
Trails A



Patients with Frontotemporal Dementia or Lewy Body Dementia or Parkinson's Disease Dementia are generally UNSAFE to drive!

Fitness to Drive

The gold standard for assessing driving safety is a comprehensive on-road assessment.



Clear Form

Ontario

Medical Condition Report

Section 203 of the Highway Traffic Act requires that all legally qualified medical practitioners must report to the Registrar of Motor Vehicles the name, address and clinical condition of any patient sixteen years of age or older who, *"is suffering from a medical condition that may make it dangerous for the person to operate a motor vehicle"*. To simplify the reporting process, the Ministry of Transportation has created this form.

Mail or fax to: Registrar of Motor Vehicles, Medical Review Section, Ministry of Transportation, 2680 Keele Street, Downsview, ON M3M 3E6. Tel. No.: 416 235-7773 or 1 800 268-1481. Fax No.: 416 235-3400 or 1 800 304-7889.

Patient Information

Last Name | First Name | Middle initial | Fee Schedule Code K035

Street No. and Name or Lot and Conc. and Township | App. No.

City, Town or Village | Postal code

Date of Birth | ☐ Male ☐ Female | Driver Licence No.(if available)

For your convenience, the following is a list of the more common medical conditions that are reported to MTO, to be marked with an "X". If the condition you are reporting is not listed, please indicate it in the section marked "Other".

- ☐ Alcohol Dependence
- ☐ Drug Dependence
- ☐ Seizure(s)-Cerebral
- ☐ Seizure(s)-Alcohol related
- ☐ Heart disease with Pre-syncope/Syncope/Arrhythmia
- ☐ Blackout or Loss of consciousness or Awareness
- ☐ Stroke/TIA or head injury with significant deficits
- ☐ Both Visual Acuity and Visual Field Impairment
- ☐ Visual Acuity Impairment
- ☐ Visual Field Impairment
- ☐ Diabetes or Hypoglycemia - Uncontrolled
- ☐ Other metabolic diseases (specify)
- ☐ Mental or Emotional Illness-Unstable
- ☐ Dementia or Alzheimer's
- ☐ Sleep Apnea-Uncontrolled
- ☐ Narcolepsy-Uncontrolled
- ☐ Motor Function/Ability Impaired
- ☐ Other (specify):

Optional

To expedite your patient's file, please provide further elaboration of clinical condition (if available) or attach as a separate report: Diagnosis; Other Relevant Clinical Information (i.e current status - including results of investigations, medication(s), treatment and prognosis); and whether or not the condition is a serious risk to road safety, threat to road safety is unknown or condition is temporary - weeks/months.

Date of examination upon which this report is based: | How long has this person been your patient?

☐ Patient is aware of this report.

☐ I wish to be notified if my patient requests a copy of this report, as releasing this report pursuant to a request under the *Freedom of Information Act* may threaten the health or safety of the patient or another individual.

For use only 030

Physician's Last Name, First Name and Middle Initial

Street No. and Name or Lot and Conc. and Township | Apt. No.

City, Town or Village | Postal code | Telephone. No.

☐ Family Physician ☐ Emergency Room Physician ☐ Specialist (Specialty) ☐ Other

Doctor's Signature | Date of Report

SR-LC-097 09-04 © Queen's Printer for Ontario, 2009

Print Form

Examples of ways to report to Ministry of Transportation

List the concerning history and/or impaired activities of daily living and cognitive test scores
(minimum legal requirement)

OR

"This is to notify the Ministry of Transportation that the patient is currently under investigation for cognitive concerns and an on-road driving assessment has been arranged to determine fitness to drive"
(exceeds legal requirement)

How to tell the patient he or she may be unsafe to drive

1. Be firm and non-negotiable in your instructions.
2. Discuss implications with patient and family.
3. Communicate your legal obligation and intention to notify the MOT, but that any decision to revoke the license rests with the MOT
4. Explore transportation options.
5. Focus on positives.
6. Provide a written statement.
7. Document and report to MOT.

Sample of written statement for the patient

Date
Name
Address

Dear Mr (Mrs):

It is my legal responsibility to notify the Ministry of Transportation if there is any concern regarding driving safety.

You have undergone assessment at

_____

I am recommending that you do not drive for the following reasons:

_____
_____

_____, MD

CMA Driver's Guide – 9th Edition

- "Medical conditions can make even the best drivers unsafe"
- Canadian Automobile Association Driving Costs, 2012: "it costs $13,654 to own and operate a mid-sized car, based on 32,000km driven per year."

Risk Management Considerations

- Inform the patient of your intention and/or obligation to report
- Remind the patient that any decision to revoke the license rests with the MOT
- Caution the patient not to drive until the MOT has made a determination
- Document your assessment, discussion, warning and advice to the patient regarding driving, and your intention to report
- Limit the information in the report to what is required by legislation

o If the patient says you are not permitted to send this information to the MOT or they will sue you….

o Address driving issues early!

CMPA 2011

Further reading

- Lee L, Molnar FJ. Driving and dementia: An efficient approach to driving safety concerns in family practice. Canadian Family Physician. 2017;63(1):27-31

- Canadian Medical Protective Association: Reporting patients with medical conditions affecting their fitness to drive. Originally published December 2010, revised February 2011