Dementia and Driving: How to Navigate Towards Driving Cessation

Chris Welsh, PGY-2

Sina Sajed, MD, FCFP

Family Medicine Forum
Vancouver, British Columbia

Oct 31st,2019

Faculty/Presenter Disclosure

- Faculty: Sina Sajed, MD, FCFP

- Relationships with financial sponsors: None
- Grants/Research Support: None
- Speakers Bureau/Honoraria: None
- Consulting Fees: None
- Patents: None
- Other:
  - Assistant Professor (Adjunct) at the Department of Family Medicine (DFM), Queen's University
  - Ontario Ministry of Health Focus Practice Designation in Geriatric Medicine
  - Physician lead for the Primary Care Collaborative Memory Services in Ontario (Scarborough and Durham Region)
  - Consultant physician at the Toronto Memory Program
  - Primary Care Representative on the Seniors Care Board for the Central-East Local Health Integration Network (LHIN) in Ontario.

Faculty/Presenter Disclosure

- This program has received no financial or in-kind support.
- Potential for conflict(s) of interest: None

Objectives:

By the end of this presentation, participants should be able:

- Identify the driving risks with dementia, and the impact of unfit drivers on the Canadian medical system
- Implement a practical approach for assessing fitness-to-drive in patients with dementia
- Recognize the limitations and complexity of the fitness-to-drive assessment.

Acknowledgements

- Dr. Linda Lee- Booster Day presentations
  - Dr. Jennie Wells
  - Dr. Mark Rapoport
  - Dr. Frank Molnar
- Dr. W.B. Dalziel- Driving and Dementia Toolkit

Real-life case: Mr. JR

- 72 yo male followed for Amnestic Mild Cognitive Decline
- Intact BADLS and IADLs (dependent for banking)
- Blood work is normal
- Testing on MoCa: 15+1/30 (24/30 3 months prior)
  - Episodic memory: 0/5 delayed recall
  - Executive function:
    - CLOX 1 and 2 impaired
    - Trails A intact 1 min 4 seconds- 1 error
    - Trails B impaired 3 minutes 14 seconds- 3 errors
    - Proverbs, similarity impaired

Would you report to the MTO?

Driving Risks with Dementia

- Group of diseases that affect functional skills for safe driving
- Difficult to anticipate progression and impact on driving
- Symptoms affecting driving:
  - Step-wise decline in cognition and function (Vascular)
  - Motor and visual spatial dysfunction (LBD and PDD)
  - Disinhibition, impulsivity and anger issues (FTD)
  - Impaired insight
    - Poor assessment of own driving
- Majority with Mild Cognitive Impairment will be safe to drive

MVCs and Dementia

- 500,000 now→ 1.1 million 2038
- When involved in a crash, seniors are over 4 times more likely to be seriously injured and hospitalized (vs. drivers 16-24 years of age)
- The majority of crash-injured seniors were driving the vehicle.
- Most (~75%) crashes involving older drivers are multiple vehicle crashes.

Comparing risk of MVCs

Risk of MVC ~8x higher for those with MILD dementia

(Dalziel 2018)

Canadian Consensus Guidelines on Dementia-Driving

- No single brief cog test that is sufficient as a sole determinant of driving ability (Grade B, level 3)
- Driving is contraindicated in persons with an inability to perform multiple instrumental ADLs or any basic ADL (Grade B, level 3)
- Driving ability should be tested on an individual basis – a comprehensive off and on road driving test is the fairest method (Grade B, level 3)
- If deemed safe, reassessment every 6-12 months (Grade B, level 3)

Does cognitive impairment = No Driving?

- No… cogitative impairment does not automatically mean no driving
- Stats (Dalziel 2018):
  - 4% of population on roads
  - Driving 2-3 years after first sign of dementia occur
  - 50% chance of crash within first year of diagnosis

- Diagnosis of Dementia means:
  1. Have to ask patient if they are still driving
     - Recent crashes reported by patient (Joseph et al., 2014).
     - Restriction of driving to less complex situations (Classen et al., 2013).
  2. Driving safety must be assessed
     - If safe, must reassess q6 months
  3. Documentation of driving assessment and report findings to ministry

Why is driving so difficult?

- **Cognition**
  - vigilance, attention, judgment, insight, planning skills
- **Vision**
  - visual acuity, depth perception, visual scanning, dynamic acuity, visual fields, night vision, glare accommodation, contrast sensitivity
- **Hearing**
- **Motor Skills**
  - power, coordination
- **Sensation**

10-minute Office based Dementia and Driving Checklist

A short practical approach* to decide if senior drivers are safe

10 item Checklist :
First 6 items “Killer Blows”

* No clear evidence based tool exist

10-minute Office based Dementia and Driving Checklist

1. **<u>Type of Dementia</u>**
   - FTD **unsafe** (disinhibition/judgement)
   - LBD **unsafe** (hallucinations/fluctuations)
   - *AD, VAD, Mixed AD/VAD are "safer" types of dementia (if no visuospatial problems)*

10-minute Office based Dementia and Driving Checklist

2. <u>Loss of 1 BADL or ≥2 IADL:</u>

S: Shopping

H: Housework

A: Accounting = finances

F: Food preparation

T: Transportation

<u>Tool use</u>: laundry, hobbies, small machinery and use of telephone, microwave, computer

10-minute Office based Dementia and Driving Checklist

3. Family Concerns about driving

- Collisions , near misses and/or damage to the car
- Getting lost, needing a ‘co-pilot’
- Missing stop signs/lights; stopping for a green light
- Right of way problems
- Crash in last two years = Strong Predictor of Driving Risk (Joseph 2016)

THE GRANDCHILD QUESTION

10-minute Office based Dementia and Driving Checklist

4. <u>Significant visuospatial abnormalities:</u>

- poorly completed intersecting pentagons (MMSE)
- number placement on clock drawing, etc. (MoCA)

10-minute Office based Dementia and Driving Checklist

5. **<u>Physical ability to operate a car</u>**
   - MSK Issues
   - Weakness
   - Range of movement (neck)
   - Coordination
   - Cardiac/Neurologic episodic spells

Physical Inability >>> Cognitive Inability

10-minute Office based Dementia and Driving Checklist

6. Visual Acuity and Visual Fields

- In office gross assessment BCVA 20/50 OU
- Visual fields (Hx/Px):
  - 120 deg horizontal
  - 15 deg above and below

Ensure: Annual Optometrist Appt (65+) and MOT exam (80+, q2 years)

10-minute Office based Dementia and Driving Checklist

7. Eliminate medications that may affect driving (especially if high dose) or lower doses - if causing drowsiness/inattention etc.)

- Alcohol
- Benzodiazepines/opioids/sedatives
- Anticholinergic Rxs:
  - Antipsychotics
  - Muscle relaxants
  - Sedating antidepressants (TCA)
  - Antihistamines (OTC)
  - Anticonvulsants
  - Antiemetics/anti-spasmotics
  - Misc: Flexeril, Digoxin, Lasix (mild anticholinergic properties by radioimmunoassay)

- ❑ Beers Criteria
- ❑ Fit for the Aged (FORTA) Criteria

10-minute Office based Dementia and Driving Checklist

8. <u>Trails Making A and B*</u>

- tests of visuospatial, executive function, attention and speed of processing
- Trails A- Speed and Reaction time
- Trails B- Divided attention

*Cannot be altered by language, anxiety, learning disability etc..

10-minute Office based Dementia and Driving Checklist

8. <u>Trails B</u> is practically used

3 or 3 Rule:

- Less than 2 minutes or errors → GOOD
- 2-3 min/≤ 2 errors → OK dependent on other observations
- 3 or more minutes or errors → **LIKELY UNSAFE**

- Note **observations**:
  - Slowness, hesitancy, self-corrections, poor focus

SR CGSJ – Roy & Molnar (2013)

1. Cut off 3 minutes → OR 2.5/3.5
2. Cut off 3 errors OR 5.96 PPV 85%

10-minute Office based Dementia and Driving Checklist

9. <u>Ruler Drop Reaction time</u>:

- Dropping a 12” ruler between thumb and index finger
- Usually caught by maximum of 9” or so, give 2 tries

FAILURE:

Ruler hits the floor twice

(Accident Analysis & Prevention 2007; 39(5): 1056 – 1063)

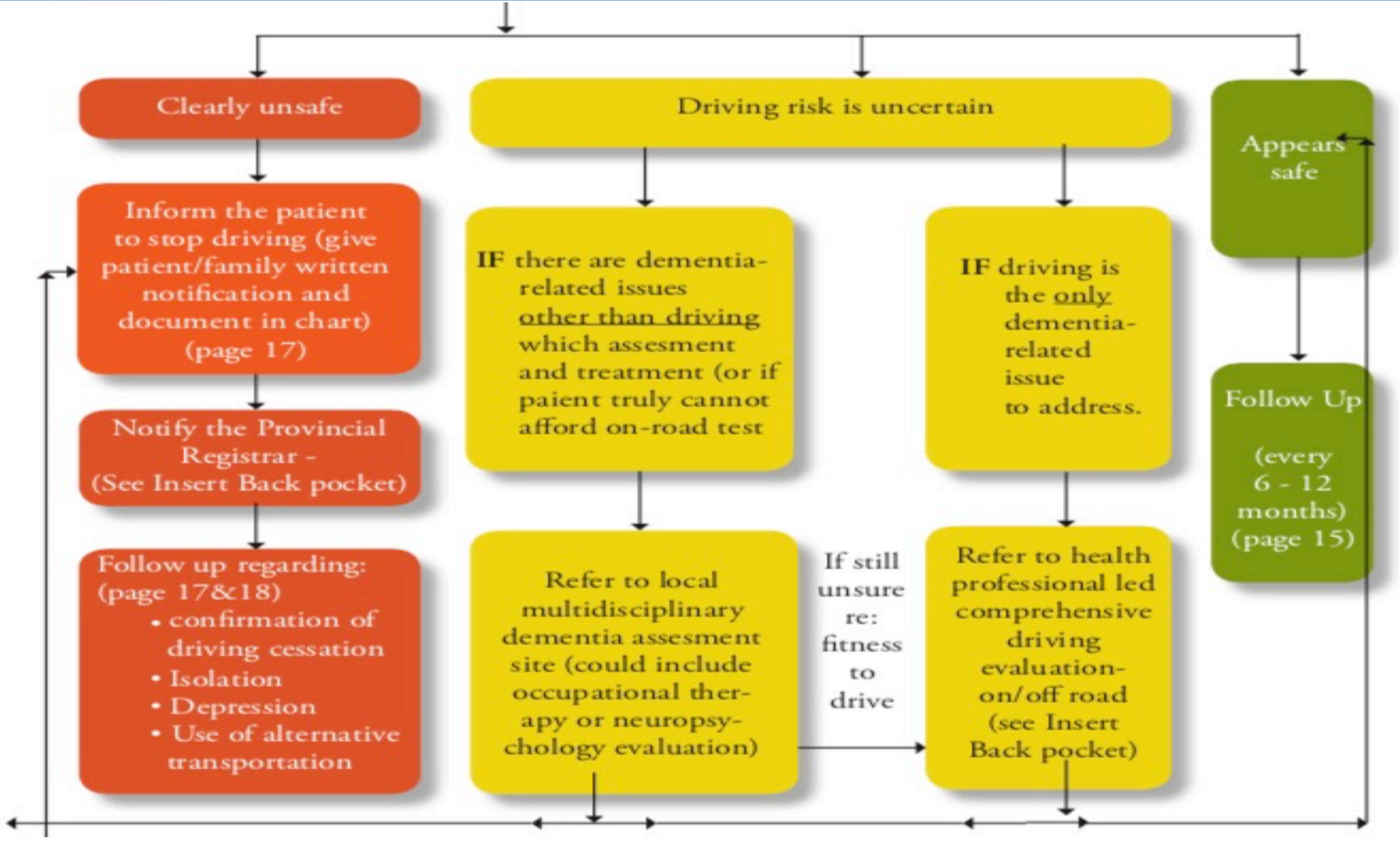
10-minute Office based Dementia and Driving Checklist

10. <u>Testing insight/Judgement</u>

i. What would you do if you were driving along a busy residential street and up ahead of you a ball rolled out on to the road?

ii. With a condition like dementia/Alzheimer's Disease, do you ever think it will become necessary for you to ever stop driving?

10-minute Office based Dementia and Driving Checklist



(Driving and Dementia Toolkit, 3rd ed)

Other Forms of in-office assessment:

- Blessed Dementia Rating Scale
- Digit Span; Digit Symbol
- Block Design
- Logical Memory Test; Boston Visual Retention Test
- Picture Arrangement
- Category Fluency
- Boston Naming Test

-No published cutoffs!

-None consistently predict Driving Cessation!

(Molnar et al, JAGS 54, 1809-1824, 2006)

Physicians Duty to Report

- In Canada, physicians have a statutory duty to report **patients >16 years old** whom they believe to be unfit to drive to the relevant provincial or territorial motor vehicle licensing authority.
- Most provinces and territories have:

  MANDATORY reporting to MOT

  - Exception: BC reporting only is mandatory if the patient drives after being warned not to
  - Exception: Alberta, Quebec and Nova Scotia reporting is *discretionary*

(CMPA June 2019)

Physicians Duty to Report

- Reporting to MOT occurs <u>even if:</u>
  - They've never had a license
  - Patient states they don't drive
  - If their driver's license is not valid
  - Another physician has already reported

- *What we promote:*
  - Despite no initial legal requirement to report to MTO in some provinces, these patients have:
    - Poor recall
    - Poor insight/executive function

Is warning these patients, despite no legal requirement to mandatorily report, enough to protect these patients and others from an MVA?

(CMPA June 2019)

Why did Ontario recently change their reporting?

- MANDATORY for Physicians, Nurse Practitioners, and Optometrist to report **certain high risk medical conditions, functional impairments, and visual impairments.**
- Government's reasoning:
  - Problem with gross under-reporting
  - Growing aging population
  - Drivers may not have access to a doctor
  - Previous wording was vague: "may report"
  - Improve the ministry's ability to identify potentially unsafe drivers.

July 1, 2018

Reporting Pearls

- Health care practitioners are protected from any legal action that may occur as a result of breaking client confidentiality when reporting under this legislation.
- Not required to report if illness is a distinctly transient or non-recurrent
- Not required to report modest or incremental changes attributable to aging, unless constitutes a condition or impairment described under mandatory reporting
  - ? Mild-Cognitive Impairment

Psychosocial consequences of Driving Cessation

- Depression
- Social isolation
- Loss of self esteem
- Many report “worse than death”
- Impact on patient/physician relationship
  - Consider referral to Primary care memory clinic or neurologist/geriatrician re: ‘second opinion’

(Rapoport 2016)

Avoiding the 'Shock Factor'

- Review driving safety at every visit
- Plant the seeds early in your relationship
  - "Driving Retirement"
  - "Normal aging eventually causes slower reaction time."
- Phrases that have worked:
  - "Someday you will need to quit driving. We will work together on that time line."
  - "You will know the right thing to do, but may be a millisecond too slow. Milliseconds matter in the Olympics and in the car."
  - "You are at a higher risk of crash compared to others your age without your diagnosis."

(Wells 2016)

Advanced Directive Letter for Driving Cessation

Agreement with My Family about Driving

To my family:

The time may come when I can no longer make the best decisions for the safety of others and myself. Therefore, in order to help my family make necessary decisions, this statement is an expression of my wishes and directions while I am still able to make these decisions.

I have discussed with my family my desire to drive as long as it is safe for me to do so. When it is not reasonable for me to drive, I desire _____ (person's name) to tell me I can no longer drive. I trust my family will take the necessary steps to prohibit my driving in order to ensure my safety and the safety of others while protecting my dignity.

Signed _____
Date _____

Copies of this request have been shared with: _____

Now back to the case…

Case 1: Mr. JR

- 72 yo male followed for Amnestic Mild Cognitive Decline
- Intact BADLS and IADLs (dependent for banking)
- BW normal
- Testing on MoCa: 15+1/30 (24/30 3 months prior)
  - Episodic memory: 0/5 delayed recall
  - Executive function:
    - CLOX 1 and 2 impaired
    - Trails A intact 1 min 4 seconds- 1 error
    - Trails B impaired 3 minutes 14 seconds- 3 errors
    - Proverbs, similarity impaired

CLOX 1: “1:45”

Would you report to the MTO?

Case 2: Ms. JB

- 59 yo f/u visit with a previous diagnosis of MCI
- Other Dxs: Depression and Anxiety
- Normal hearing and vision
- BW normal
- S: decline in STM, worsening anxiety, hypersomnia during day.
- BADLs and IADLs intact
  - Does not drive (feels 'overwhelmed') x 5 years
  - Pt uses valid driver's license for I.D.
- MoCA 18+1/30 (previous 20+1/30 1 year ago)
  - Episodic Memory: 0/5 delayed recall
  - Executive function:
    - CLOX 1 and 2 intact
    - Mini trails impaired
    - Trails B- 3:22 with 1 error impaired

Diagnosis: MCI

Etiology: poorly controlled mood disorder, sleep disorder, ?Prodromal dementia.

Would you report to the MTO?
(Remember, the patient does not drive)

Case 3: Mr. PG

- Referred by Neurologist
- Cognitive decline on background of Parkinson's Dz
- Other hx: lacunar stroke x 3, HTN, Hyperlipidemia, CAD, ++ ETOH, Anxiety & Depression (on Paxil)
- Limited BW sent with referral
- Family concerns:
  - "Hit the curb a year ago, hit tire on curb a few months ago. No MVAs. No near misses. Driving slower than usual. Wife doing driving when they are together. Noticed lane changes are slower. "
- Independent in all IADLs and BADLs
- MoCa: 24/30
  - Episodic Memory: 3/5 Delayed recall
  - Executive Function:
    - Impaired cube draw, CLOX normal
    - Trails A completed in 1:43 with 0 errors. impaired - too slow
    - Trails B completed in 2:55 with 3 errors. impaired - on second attempt (first was 3 minutes and 40 seconds with 3 errors)
- Gait: mild decreased step height, decreased arm swing on his left side, and no arm swing on his right side

Would you report to the MTO?

Tips on Counselling following License Cessation

- Enlist family to support stopping driving (pre-meeting if needed)
- Worried about safety:
  - “You would never want to hurt someone”
- Remember to not to blame the patient
  - Show deficits in their testing
- Highway traffic act: “It’s the law to report”
- Admission that pen & paper tests aren’t the gold standard, the on road test is.
  - Can offer patient option of On-Road testing
  - Counsel: Temporary license and Cost ($$$)
- Alternatives:
  - “Driving a car is $5000/per year”.
  - Taxi is cheaper if <4000 km/year or Uber (Coming soon)

(Wells 2016; Dalziel 2018)

Sample Written Statement to Patient

Date:_____

Name:_____

Address:_____

Dear Mr (Mrs):

I realize that this is a difficult recommendation for you, but based on the results of tests performed, I am recommending you do not drive. You have undergone assessment for memory/cognitive problems. It has been found by comprehensive assessment that you have _____ dementia. The severity is _____.

Even with **mild** dementia, compared to people your age, you have an 8 times risk of a car accident in the next year. Even with **mild** dementia, the risk of a serious car accident is 50% within 2 years of diagnosis.

Additional factors in your health assessment that raise concerns about driving safety include:

_____

_____

_____

_____

As your doctor, I have a legal responsibility to report potentially unsafe drivers to the Provincial Registrar. Even with a previous safe driving record, your risk of a car accident is too great to continue driving. Your safety and the safety of others are too important.

_____ M.D. _____ Witness

Summary

If unsafe – tell patient/family and report (MOT)

If unsure – specialized on road assessment

If safe –
re-evaluate q6-12 months

Additional Resources

- Alzheimer Society Resources: http://alzheimer.ca/en/Home/Living-with-dementia/Day-to-day-living/Driving-and-transportation/Driving-and-dementia-tip-sheet
- CMA: Determining Medical Fitness to Drive: A guide for Physicians. Canadian Medical Association Driver's guide 9th edition. https://joulecma.ca/evidence/CMA-drivers-guide
- Driving and Dementia Tool Kit for Family Physicians (Dementia Network of Ottawa-Carleton)- www.rgpeo.com or www.canDRIVE.ca
- The Driving and Dementia Tool Kit 3rd Edition http://www.rgpeo.com/media/30695/dementia%20toolkit.pdf

Questions?

For any questions:
sina.sajed@dfm.queensu.ca