Dementia and Driving Checklist

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Adapted: August 2008 by Catherine McCumber for GiiC Initiative
Learning Objectives

Participants will be able to:

1. Screen asymptomatic patients for risk of dementia and possible driving concerns.
2. Describe important issues with respect to dementia and driving.
3. Assess patients with dementia for driving safety using a simple 10 minute safe driving assessment.
4. Overview of driving cessation strategies
Older Drivers: A public safety concern?

- Dramatic increase of the number of senior drivers in Ontario from just under 500,000 in 1986 to projected figure of nearly 2,500,000 in 2028 (Hopkins, 2004)

- Studies consistently suggest that older drivers have mileage-based crash rates as high or higher compared to younger drivers

- When compared to younger drivers, crashes among older drivers are more likely to occur (McGwin, 1999):
  - In good weather
  - During daylight hours
  - At intersections
  - When making turns
A Major Public Health Concern

- When compared with younger drivers, older drivers who are involved in a crash are 44% more likely to be the casual (i.e. At fault) driver. (Parker et al., 2000)

- When involved in a crash:
  - Drivers 65 – 69 were 1.29 more likely to die when involved in a crash when compared to 40 – 49 yr old
  - Drivers 85 and older were 3.74 times more at risk of fatal injury (Preusser, 1998)

- The majority of crash-injured seniors were driving the vehicle.

- Most crashes involving older drivers involve multiple vehicles vs single vehicles in the younger group (McGwin, 1999)
Police identify woman killed when car struck bus shelter
Katie Daubs and Ben Costen, The Ottawa Citizen

- Published: Thursday, April 03, 2008
- OTTAWA - An 84-year-old woman lost control of her Toyota Corolla on Wednesday, leveling a Lincoln Fields bus shelter and killing a 66-year-old woman inside.
Every 2 years all seniors, living in Ontario, over the age of 80 who wish to renew their license must participate in the Senior Driver Renewal Program.
Senior Driver Renewal Program

Renewal Process
- Payment of licensing fee
- A vision test
- A knowledge test
- Take part in a group education session
  - a small number of drivers may also be asked to take a road test to have their in-car skills assessed.

Limitations of Renewal Process:
- Misses a significant portion of potentially dangerous drivers: those with dementia who are under the age of 80
- The program itself is not designed to detect individuals with dementia
- Prior to 1996 all individuals 80 plus needed to take a road test (Hopkins, 2004)
Does the diagnosis of dementia automatically mean *no driving*?

Provided by Dr. Dalziel
The Scope of the Problem

2.5% of the elderly are DDs (demented drivers)

<table>
<thead>
<tr>
<th>Location</th>
<th>Elderly Population</th>
<th>Demented Drivers</th>
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</thead>
<tbody>
<tr>
<td>Canada</td>
<td>3,500,000</td>
<td>87,500</td>
</tr>
<tr>
<td>Ottawa</td>
<td>100,000</td>
<td>2,500</td>
</tr>
<tr>
<td>Toronto</td>
<td>500,000</td>
<td>12,500</td>
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</table>

(Hopkins, 2004)
Driving Safety: It is **Not** Age but **Disability**

- Medical conditions and medications are the primary cause of decline in driver safety.
  - Can make even the best of drivers unsafe to drive.
  - Can affect drivers of any age: Increasingly likely as age ↑s

- The safety concern is **not** the presence of diseases/disabilities but the severity and/or instability of conditions (including medication changes.)
FAQ Answered – The Take Home Message

The diagnosis of dementia does *not* automatically mean no driving

- The diagnosis of dementia *does mean*:
  - You **must** ask if the person is still driving
  - You **must** assess driving safety
  - You **must** document driving assessment and follow your provincial reporting requirements
How good is the MMSE in predicting driving capacity?

- There is questionable correlation between driving safety and the MMSE.

- Functional abilities Instrumental Activities of Daily Living (IADLs) are better correlated.
The MMSE and Driving Capacity

- It is critical to emphasize that driving capacity depends on a **GLOBAL CLINICAL PICTURE**:
- The MMSE (when adjusted for age and education) can provide a rough framework for assessing driving safety. Patients scoring under 20 are likely **unsafe to drive** (if education ≥ Grade 9).
Dementia and Driving Checklist

- Non evidence based – expert onion and peer reviewed
- Developed by Dr. W.B. Dalziel
  Chief, Regional Geriatric Program of Eastern Ontario
  Associate Professor, Division of Geriatric Medicine
  University of Ottawa
The Dementia and Driving Checklist

- A short practical “approach” to decide if senior drivers are
  Safe       Uncertain       Unsafe

- (caveat – driving risk is difficult to assess and no clear evidence based tools exist)
1. **Type of Dementia**
   - FTD unsafe (disinhibition/judgement)
   - LBD unsafe (hallucinations/fluctuations)

AD, VAD, Mixed AD/VAD are safer “types of dementia”… (if no visuospatial problems)
Dementia and Driving Checklist

2. Severity:

Generally, functional losses stratify severity better than MMSE (very mild is likely safe, mild is likely unsafe)

- Very mild: generally involves only mild losses, e.g., problems with 1 (NOT MORE) instrumental activities of daily living (IADLs) (i.e., SHAFT)

  S: Shopping
  H: Housework
  A: Accounting = finances
  F: Food preparation
  T: Transportation

  (some patients with very mild or mild dementia may still be safe to drive)

Also laundry, hobbies, small machinery and use of telephone
3. Family Concerns (? In car lately?):

- 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
Dementia and Driving Checklist

- Driving “PEARL”

The Granddaughter Question
4. **Significant visuospatial problems**: poorly done intersecting pentagons/number placement on clock drawing, etc.

5. **Reaction time**: (dropping a 12” ruler between thumb and index finger – usually caught by maximum of 9” or so, give 2 tries)
RED FLAGS - Behavioural Issues

- Delusions
- Disinhibition
- Hallucinations
- Impulsiveness
- Agitation
- Anxiety
- Apathy
- Depression
Dementia and Driving Checklist

6. Poor judgment/insight: e.g., what would you do if....:
   - fire in neighbour’s kitchen
   - approaching yellow light
   - found addressed envelope on the ground.
7. **Trails A and B**: tests of visuospatial, executive function, attention and speed of processing (generally failed by failing to understand concept of test or by making errors, not by exceeding time limit)
Trails A
Trails B
Trails A + B

Trails A and B are tests of memory, visuospatial, attention and executive function. More than 1 error or scoring below the 10th percentile in the time (in seconds) taken raises concerns about driving safety (50th percentile is given for comparison).

<table>
<thead>
<tr>
<th>Age</th>
<th>Percentiles</th>
<th>Trails A* (education – no change)</th>
<th>Trails B ≤Grade 12</th>
<th>Trails B &gt;Grade 12*</th>
</tr>
</thead>
<tbody>
<tr>
<td>65-69</td>
<td>50</td>
<td>37</td>
<td>86</td>
<td>68</td>
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<tr>
<td></td>
<td>10</td>
<td>53</td>
<td>137</td>
<td>77</td>
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<td>70-74</td>
<td>50</td>
<td>38</td>
<td>101</td>
<td>84</td>
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<td></td>
<td>10</td>
<td>61</td>
<td>172</td>
<td>112</td>
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<tr>
<td>75-79</td>
<td>50</td>
<td>46</td>
<td>120</td>
<td>81</td>
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<tr>
<td></td>
<td>10</td>
<td>70</td>
<td>189</td>
<td>178</td>
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<tr>
<td>80-84</td>
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<td>52</td>
<td>140</td>
<td>128</td>
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<tr>
<td></td>
<td>10</td>
<td>93</td>
<td>158</td>
<td>223</td>
</tr>
<tr>
<td>85+</td>
<td>50</td>
<td>54</td>
<td>143</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>120</td>
<td>319</td>
<td>240</td>
</tr>
</tbody>
</table>

*Generally time over 3 minutes or > 1 error is a failure. Observations may also help
• hesitancy
• self corrections
• poor focus

*Passing Trails A+B does not necessarily mean that the patient is safe to drive+

TN Tombaugh Arch clin neuropsychol 2004;19.pg 203-14
Trails B

Timing/Errors

1. <2 min/<2 errors = **GOOD**
2. 2-3 min/≤ 2 errors = OK dependent on other observations
3. >3 minutes/2 errors = **LIKELY UNSAFE**

Observations

- Slowness
- Hesitancy
- Self-corrections
- Poor focus
8. Medications that may affect driving (especially high doses or changing doses)

- alcohol
- benzodiazepines
- antipsychotics
- muscle relaxants
- sedating antidepressants and antihistamines
- Anticonvulsants

*Slide Courtesy of Dr. F Molnar*
Reference List of Drugs with Anticholinergic Effects

- Antidepressants
- Antipsychotics
- Antihistamines/
  Antipruritics
- Antiparkinsonian
- Antispasmodics
- Antiemetics

Miscellaneous
- Flexeril
- Lomotil
- Rythmodan
- Tagamet
- Digoxin
- Lasix

The medications in the miscellaneous category have been shown to have anticholinergic properties by radioimmunoassay but are less anticholinergic than the other medications listed. However, they may add to total anticholinergic load.
Dementia and Driving Checklist

9. Vision/hearing
10. Other medical/physical
10 Item Dementia and Driving Checklist

1. **Dementia type**: AD, VaD, FTD, LBD, mixed AD/VaD, MMSE _____ MoCA ____
   (Circle) Other ____________________

2. **Severity**
   - Very mild □
   - Mild □
   - Moderate □
   - Severe □
   SHAFT: □ Shopping, □ Housework, □ Accounting, □ Food, □ Telephone/Tools

<table>
<thead>
<tr>
<th>OK</th>
<th>A problem:</th>
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<tbody>
<tr>
<td>3. Family concerns</td>
<td>□</td>
</tr>
<tr>
<td>4. Visuospatial ability</td>
<td>□</td>
</tr>
<tr>
<td>5. Reaction Time</td>
<td>□</td>
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<tr>
<td>6. Judgment/insight</td>
<td>□</td>
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<td>7. Trails A/B</td>
<td>□</td>
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<td>□</td>
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<tr>
<td>8. Drugs</td>
<td>□</td>
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<tr>
<td>9. Vision/Hearing</td>
<td>□</td>
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<tr>
<td>10. Other Medical/Physical</td>
<td>□</td>
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After Driving Assessment

**Patient not safe**
- Provincial Ministry of Transport notification
- Patient notification (letter), copy for chart

**Uncertain safety**
- Discuss with patient and family
- Patient wishes to continue driving → referral to specialist or specialized on-road driving evaluation
  - or
  - Patient decides to stop driving – Ministry of Transport notification

**Patient safe**
- Discuss with patient and family
  - *At some time driving cessation will be necessary*
  - *Suggest driving training and self-limitation*
- Book six- to nine-month follow-up to reassess driving safety

Patient wishes to continue driving → referral to specialist or specialized on-road driving evaluation
Fax all reports to: 1-416-235-3400
Telephone: 1-416-2351773 or 1-800-268-1481
Website: http://www.mto.gov.on.ca/english/dandv/driver/medreport/index.html

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.

Fax or mail to: Registrar of Motor Vehicles, Medical Review Section, Ministry of Transportation, 2000 Keele Street, Downsview, ON M3C 3E9. Tel. No.: 410-235-1773 or 1-800-208-1481, Fax No.: 410-235-3400 or 1-800-304-7869.

<table>
<thead>
<tr>
<th>Patient Information</th>
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<tbody>
<tr>
<td>Last Name</td>
</tr>
<tr>
<td>Street No. and Name or Lot, Con. and Twp.</td>
</tr>
<tr>
<td>City, Town or Village</td>
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<tr>
<td>Date of Birth</td>
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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

For MTO Use Only

Physician's Last Name, First Name and Middle Initial

Date of examination upon which this report is based: Y M D

How long has this person been your patient? __________

☐ 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.

Physician’s Last Name, First Name and Middle Initial

Street No. and Name or Lot, Con., and Township

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

☐ Family Physician ☐ Emergency Room Physician ☐ Specialist ☐ Other (specify): 

Doctor’s Signature

Date of Report Y M D
Notification About Driving Safety

Name: ____________________________________________
Date: ____________________________________________
Address: _________________________________________________________________________

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 raising concerns about driving safety include:
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

As your doctor, I have a legal responsibility to report potentially unsafe drivers to the Ministry of Transport. 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
Giving up Driving
Despite the fact that life expectancy exceeds driving expectancy by 9.4 years most drivers do not plan well for driving cessation (CMA driver’s guide, 7th Ed)

Studies found 27.3% of physicians surveyed in Saskatchewan indicated they were hesitant to report unfit drivers (Rapoport, 2007)

Automobiles are used for nearly 90% of older adult trips outside the home (Collia, 2003)
Why is it so difficult to tell a patient they are unsafe to drive?

- Cessation of driving has been shown to increase symptoms of depression for a period of up to 6 years (Marottoli, 1997)
- Violates individual autonomy (Perkinson, 2005)
- Impedes access to proper nutrition, medical care, and opportunities for social engagement (Marottoli, 2000)
- The loss of a license may also mean the difference between living at home and having to move to an institution or other accommodation
Why do family members delay discussing driving cessation even after dementia diagnosis?

- The patient lacks insight into their driving difficulties due to the disease process
- Family lack of insight into dementia and driving
- Families may fear an increase in caregiver burden following the termination of driving (Perkinson, 2005)
- Studies show that in fact family members primarily shoulder the burden of limiting or stopping driving in dementia patients (The Hartford Group, 2000)
Telling patient they are unsafe to drive

- Before the appointment, consider asking that the spouse or caregiver be present.
- Ask that someone bring the patient to the appointment versus patient driving.
- Be firm and non-negotiable in your instructions that they do not drive.
Telling patients to stop driving

- Provide a written statement to the patient of your reasons to challenge their fitness to drive.

- Often patient will talk about his or hers past good driving record. Acknowledge that accomplishment in a genuine manner, but return to the need to stop driving. (CMA Drivers Guide 7th ed).
Enlisting Family help if you suspect the patient won’t comply with stopping driving

- Hide keys
- Substitute a door key for the ignition key
- Put notification letter from physician or MOT in obvious location and refer to it to remind patient they can’t drive.
- Disable the car – i.e. simplest way is to remove the battery
- Remove the car – i.e. have a family member borrow it and never bring it back; or, have a tow truck tow it in for repairs and never return it. (LePore, 2000)
- Buy a new alarm for the car to inform you if they attempt to drive
- Keep tabs on driving – i.e. jot down mileage of odometer
If the person with dementia is currently safe to drive.

- Reinforce that the need for driving cessation as inevitable.
- Discuss the steps involved to maintain a drivers license given a dementia diagnosis.
  - physician has a legal obligation to inform the Ministry of Transportation of any condition that may affect driving.
  - They must come back for a complete driving assessment every 6 months (3rd CCCDTD). This may include a costly on road assessment (approximately $500) as well.
  - You may wish to point out that the individual's car insurance may change with a dementia diagnosis.
- For those who wish to continue driving you can provide them with “Tips” for safe driving.
Tips for safe driving

- 55 Alive programs
- Keep car in good running condition
- Have car adjusted to properly meet limitation needs “i.e. CarFit through CAA
- Adjust your driving habits i.e. not at night,..
- Co-Piloting Is Not the Answer
Steps for Planning for Driving cessation

1. Keep tabs on patients driving
   - Take drives regularly with patient
   - Enlist help from others
   - Routinely inspect car for scrapes

2. Find alternatives to driving
Looking at alternatives to driving

<table>
<thead>
<tr>
<th>Activity</th>
<th>How do you get there now</th>
<th>New ways of getting there or having service provided</th>
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Resources

- Medical Fitness to Drive CMA Guide
  www.cma.ca
- Driving and Dementia Toolkit
  www.rgpeo.com
- www.CanDRIVE.ca
References

Canadian Automobile Association. Helping Aging Drivers.  
http://www.caa.ca/agingdrivers/home_en.html


Champlain Dementia Network Physician Education Committee. Dementia Toolbox, Dementia Education for Family Physicians Program.

Daubs, K., Costen, B. Police identify woman killed when car struck bus shelter. Published Thursday April 03, 2008 in The Ottawa Citizen.


The Hartford Group: Family Conversations with Older Drivers.  
www.thehartford.com/talkwitholderdrivers


McGwin, G., Brown, D.B. Characteristics of traffic crashes among young, middle-aged, and older drivers. Accident Analysis and Prevention (1999); 31: 181-198


