Cognitively At-Risk Drivers: The Role of the MVA

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Maryland Motor Vehicle Administration
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Older Driver Safety / Safe Mobility for Life

Driving may be tougher than you normally think of it. One example is coming up to an intersection and the signal light turns yellow:

- Your eyes must see it
- Your brain must realize a decision needs to be made
- You must make a decision on whether you should stop based on past experience, knowledge of timing and distance, awareness of your surroundings, and finally
- Your body must engage to enact the decision to stop by activating your muscles, lift your leg and press on the brake. All this happens within just a few SECONDS!

Aging can affect your driving, but more importantly health affects your driving! Many older drivers don’t face serious medical conditions or functional limitations that affect their driving, but ALL drivers need to know their risks, how to manage their risks, and be familiar with resources to help! These webpages are to help direct you, your family and professionals to the information necessary to consider for aging and potential effects on ability to drive safely.

Age alone does not make unsafe drivers, and licensing is NOT determined by a diagnosis. If someone questions whether you are medically qualified to drive, MVA focuses on functional ability ... not age or disease ... and provides an individual review or fitness to drive.

Helpful Tips for Older Drivers
- Helpful Tips for Family & Friends of an Older Driver
- Helpful Tips for Health Care Professionals of Older Drivers
- Senior Driving and Health – Resource for Physicians & Patients
- Medications & Driving
- Maryland Older Driver Safety Symposium
- Maryland Older Driver Statistics
- Additional Resources
Learning Objectives

- Referral of drivers to the Maryland MVA
- Role of the Medical Advisory Board
- Fitness to Drive evaluation of a client
- Driving risk in clients with dementia
Most Older Drivers are Safe & Responsible

- Avoid heavy traffic
- Avoid bad weather
- Avoid nighttime and freeway driving
- Map out safe routes to routine destinations
- Look for routes with right turns

Marottolli RA, et al: *J Gerontology*
1993;48:8255–8260
Physician’s Guide to Assessing and Counseling Older Drivers
AMA REPORT OF COUNCIL ON ETHICAL & JUDICIAL AFFAIRS

E.2.24 Impaired Drivers and Their Physicians

1. Physicians should assess patients’ physical or mental impairments that might adversely affect driving.
   - Each case must be evaluated individually
   - Must be able to document impairment
   - Must pose a clear risk to public safety

Dec, 1999

http://www.ama-assn.org/ama/pub/category/8464.html
AMA REPORT OF COUNCIL ON ETHICAL & JUDICIAL AFFAIRS

E.2.24 Impaired Drivers and Their Physicians

2. Before reporting
   - Tactful but candid discussion with the pt. & family about the risks of driving.
   - Physician may suggest treatment (ex: occupational therapy, substance abuse treatment)
   - Encourage pt. & family on restricted driving
   - Negotiate a workable plan

Dec, 1999
http://www.ama-assn.org/ama/pub/category/8464.html
E.2.24 Impaired Drivers and Their Physicians

3. When advice to discontinue driving is ignored, it is desirable & ethical to notify the DMV.

4. The physician’s role is to report medical conditions as dictated by his or her state’s mandatory reporting laws and standards of practice.

5. Physicians should disclose and explain to their patients this responsibility to report.

6. Protect patient confidentiality.

Dec, 1999
http://www.ama-assn.org/ama/pub/category/8464.html
Q1. What is the legal obligation of a Clinician to report (refer is a better word) a medically impaired driver to the MVA?

A1. None

Q2. What are Drivers obligated to report to the MVA?

A2. Disclose reportable conditions upon application and at renewal.
Maryland Reportable Conditions

- Cerebral Palsy
- Diabetes (insulin)
- Epilepsy
- Multiple Sclerosis
- Muscular Dystrophy
- Irregular heart rhythm or heart condition
- Stroke/TIA
- Alcohol dependence or abuse
- Drug dependence or abuse
- Loss of Limb(s)
- Traumatic brain injury

- Schizophrenic disorders
- Panic attack disorder
- LOC/Seizure/Blackout
- Disorder which prevents a corrected minimum visual acuity of 20/70 or a field of vision of at least 110 degrees
- Bipolar disorder
- Parkinson’s Disease
- Dementia
- Sleep disorder (ex. narcolepsy, sleep apnea)
- Autism

Require Physician Report and Health Questionnaire
Driver Wellness And Safety

The MVA's programs that ensure that drivers are capable of driving safely:

- 3-Hour Alcohol and Drug Education Program Requirements
- 12-Hour Alcohol Education Program (AEP) Requirements
- Customer Self-Report of a Medical Condition
- Driver Improvement Program (DIP) Requirements
- Driving Restriction - Placement of a Restriction
- Driving Restriction - Removal of a Restriction
- Ignition Interlock Program
- MAIF Referral of a Problem Driver
- Medical Advisory Board (MAB) Referral
- Modified Vision Program
- Reinstatement of a Revoked Driver's License
- Driving and Your Health
MVA Driver Wellness Philosophy : Safe Mobility for Life

➤ Safe Mobility for life of client and other users of roadways.

➤ Drive for as long as safe.

➤ Consider each driver on a case-by-case basis.

➤ This is accomplished by medical assessments, re-education & rehabilitation training programs.
Medical Advisory Board

(a) “The Administrator may appoint a Medical Advisory Board...

(c) “The Administrator may refer to the Medical Advisory Board, for an advisory opinion, the case of any licensee or applicant for a license, if the Administrator has good cause to believe that the driving of a vehicle by him would be contrary to public safety and welfare because of an existing or suspected mental or physical disability.”
Paths to Driver Wellness

- Self report- apply or renew
- MVA Counter referrals
- Report from a clinician
- Concerned citizen report
- Police referrals- RRE
- Court referrals- DUI/DWI
Clinician Letters to MVA

Mr. X has been a patient of mine for 15 years. He has a history of Parkinson’s disease with very significant physical and mental impairments. The impairments are such that I feel strongly that he should not be driving.

Mrs. M has recently been diagnosed with Dementia and I have concerns regarding her ability to drive. Please evaluate her ability to drive safely.
Concerned Citizen Letter

Maryland MVA:

   My sisters and I are concerned about the driving ability of our father. He has been in a couple of car crashes and he has many medical problems. We would like to remain anonymous.

*These letters prompt an MVA field investigation to verify concerns.
Hypothetical
Request for Re-examination:
Was observed driving below speed and swerving in lane.
Seemed confused when I stopped him.
MVA Evaluation

- Client is assigned a nurse case manager.
- Client submits a medical report and health questionnaire.
- Case may be reviewed by the MAB. Majority of cases are done as “paper cases”. If additional information is needed, the client may be interviewed.
- Further evaluation - FCT and/or a MVA drive test may be requested.
Medical History

An opportunity to focus on the client’s self awareness/insight and judgment. These are difficult to assess with cognitive testing.
Medical History

- Client and/or family members have concerns
- History of falls
- Alcohol/substance abuse
- Trips take longer than usual when driving alone
- Client has gotten lost while driving
- Reports of family “copiloting”
Medical History

- Any history of a traffic encounter with the police (regardless if a citation was issued)
- Has been involved in a crash or fender bender
- Drive at inappropriate speeds; fail to observe traffic signs and signals
- MVA has requested information/evaluation
Physician/Health Care Provider Report

MVA notes to the Physician/Health Care Provider: __________
### Section 2: History

Has your patient been in any accidents?

Has your patient expressed any concern about their medical fitness to drive?

Has your patient had a LOC, Seizure or Syncopal episode?

Has your patient sustained a fall?

<table>
<thead>
<tr>
<th>In the past two years:</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Has your patient been in any vehicle crashes/accidents?</td>
<td>□ Yes □ No □ Unknown</td>
<td></td>
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</tr>
<tr>
<td>1a. If YES, when?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Has your patient expressed any concern(s) about their medical fitness to drive?</td>
<td>□ Yes □ No □ Unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If YES, please explain:</td>
<td></td>
<td></td>
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<tr>
<td>3. Has your patient had any of the following?</td>
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<td></td>
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<tr>
<td>□ Loss of Consciousness (LOC) □ Seizure □ Syncope</td>
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<tr>
<td>Any LOC altered state of consciousness requiring assistance</td>
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<tr>
<td>If YES, what was the date of the last episode?</td>
<td></td>
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<tr>
<td>4. Has your patient sustained a fall?</td>
<td>□ Yes □ No □ Unknown</td>
<td></td>
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<tr>
<td>5. Have you treated this patient or referred him/her to another clinician for any of the following conditions that could affect driving? (Please use comment section to provide information.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Diabetes requiring insulin</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>b. Seizure/epilepsy</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>c. Multiple sclerosis</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>d. Cardiac condition</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>e. CVA or transient ischemic attack</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>f. Alcohol or drug abuse/dependence</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>g. Traumatic brain injury</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>h. Loss of limb or limbs</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
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<tr>
<td>i. Bipolar disorder</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
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<tr>
<td>j. Schizophrenic disorder</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
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<tr>
<td>k. Panic disorder</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
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<tr>
<td>l. Visual problem</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
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<tr>
<td>m. Parkinson’s disease</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>n. Dementia/possible cognitive problem</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>o. Sleep disorder (ex:narcolepsy, sleep apnea)</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
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<tr>
<td>p. Autism</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
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<tr>
<td>q. Any other condition(s) that impact safe driving</td>
<td>□ Yes</td>
<td>□ Yes</td>
<td>□ Yes</td>
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<tr>
<td>Comment(s):</td>
<td></td>
<td></td>
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</table>

Physician/Health Care Provider Report Page 2
**Section 3: Current diagnoses and medications**

<table>
<thead>
<tr>
<th>CURRENT DIAGNOSES</th>
<th>CURRENT MEDICATIONS</th>
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<td>1.</td>
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<td>3.</td>
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<td>4.</td>
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<td>5.</td>
<td>5.</td>
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<td>6.</td>
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**Section 4: Results of any diagnostic studies pertinent to medical conditions affecting driving**

Please provide results of diagnostic studies (laboratory, imaging, etc.) that are pertinent to conditions that can affect your patient's fitness to drive.

**Section 5: Physical, Cognitive, Mental Health Status**

Does your patient have any cognitive, physical, or mental health problems that affect their ability to safely operate a motor vehicle?

- Yes
- No
- Not Sure

If YES, or Not Sure, please explain:

**Does your patient require any of the following?**

- Cane
- Walker
- Wheelchair
- Scooter
- Portable oxygen
- Adaptive equipment to drive
- Other

Does your patient require any assistive device or adaptive equipment to drive?
Is your patient compliant with treatment?

Are conditions stable and/or improving?
If no, please elaborate.

Do you have any concern about his/her ability to safely operate a motor vehicle?

Do you think any additional assessment would help?
Can High-Risk Older Drivers Be Identified Through Performance-Based Measures in a Department of Motor Vehicles Setting?

Karlene K. Ball, PhD,* Daniel L. Roenker, PhD,† Virginia G. Wadley, PhD,* Jerri D. Edwards, PhD,‡ David L. Roth, PhD,§ Gerald McGwin, Jr., PhD,∥∥ Robert Raleigh, MD,∥∥∥ John J. Joyce, JD,∥∥∥ Gayla M. Cissell, MA,† and Tina Dube, MS§

OBJECTIVES: To evaluate the relationship between performance-based risk factors and subsequent at-fault motor vehicle collision (MVC) involvement in a cohort of older drivers.

DESIGN: Prospective cohort study.

SETTING: Motor Vehicle Administration (MVA) field sites in Maryland.

PARTICIPANTS: Of the 4,173 older drivers invited to participate, 3,770 agreed to participate and 3,191 completed the study.

CONCLUSION: Performance-based cognitive measures are predictive of future at-fault MVCs in older adults. Cognitive performance, in particular, is a salient predictor of crash, and those who took 353 ms or longer on subtest 2 of the UFOV were 2.02 times as likely to incur an at-fault MVC. Older adults, men, and individuals with a history of falls were more likely to be involved in subsequent at-fault MVCs.

Performance-based cognitive measures are predictive of future at-fault MVCs in older adults. ... High-risk older drivers can be identified through brief, performance-based measures administered in an MVA setting.”
FCT- Functional Capacity Test

- Rapid walk - lower limb mobility (>7.0 sec)
- Delayed recall – assesses memory (≥2 wrong)
- Trails B - Assesses visual search & sequencing, information processing speed, attention switching (>2 min 30 sec)
- Motor Free Visual Perception Test (MVPT) Assesses understanding of spatial relationships (>4 wrong)
- Useful Field of View (UFOV®) Assesses divided attention. (>350 milliseconds)
TRAILS B
TRAILS B
MVPT
MVPT
Useful Field of View (UFOV®)

Which object appeared in the center of the screen?

Car   OR   Truck
On which spoke did the outside object appear?
Medical Advisory Board Outcomes

- Continue driving with or w/o possible restrictions.
- Request client be further evaluated with a FCT, MVA drive test or OT evaluation.
- Recommend suspending their driving privilege.
- May request follow up medical reports.
- May close case.
OT Driving Evaluation

- Formal driving evaluation that involves a clinical assessment followed by a behind the wheel evaluation. Considered by some to be the “gold standard”.
- Clinicians can refer clients for an OT evaluation or MVA can recommend.
- Clients that are found fit to drive may be reassessed on a regular basis.
Outcomes of OT Assessments

- Recommend continued driving.
- Recommend driver training.
- Recommendation for adaptive equipment (larger side view mirrors, pedal extenders, etc.)
- Recommendation for a geographic driving restriction for essential driving needs - shopping, doctor. The client is restricted to driving in a 5 to 10 mile radius.
- High risk driver - recommend cease driving and retire from driving; OT will usually notify the MVA.
Practice Parameter update: Evaluation and management of driving risk in dementia
Report of the Quality Standards Subcommittee of the American Academy of Neurology

D.J. Iverson, MD
G.S. Gronseth, MD
M.A. Reger, PhD
S. Classen, PhD, MPH, OTR/L
R.M. Dubinsky, MD, MPH
M. Rizzo, MD

ABSTRACT

Objective: To review the evidence regarding the usefulness of patient demographic characteristics, driving history, and cognitive testing in predicting driving capability among patients with dementia and to determine the efficacy of driving risk reduction strategies.

Methods: Systematic review of the literature using the American Academy of Neurology’s evidence-based methods.

Recommendations: For patients with dementia, consider the following characteristics useful for identifying patients at increased risk for unsafe driving: the Clinical Dementia Rating scale (Level A), a caregiver’s rating of a patient’s driving ability as marginal or unsafe (Level B), a history of crashes or traffic citations (Level C), reduced driving mileage or self-reported situational avoidance (Level C), Mini-Mental State Examination scores of 24 or less (Level C), and aggressive or impulsive personality characteristics (Level C). Consider the following characteristics not useful for identifying patients at increased risk for unsafe driving: a patient’s self-rating of safe driving ability (Level A) and lack of situational avoidance (Level C). There is insufficient evidence to support or refute the benefit of neuropsychological testing, after controlling for the presence and severity of dementia, or interventional strategies for drivers with dementia (Level U).
Practice Parameter update

- CDR (Clinical Dementia Rating)- is useful to identify unsafe drivers. Risk of failing a drive test was 82.7 for CDR 0.5 and 88.67 for CDR of 1.0. However a substantial number of patients with a CDR of 0.5-1.0 will be able to pass a drive test.
- Caregiver’s rating of unsafe driving is useful.
- MMSE of \( \leq 24 \) is possibly useful.
Practice Parameter update

- Crash history- a history of a crash in past 1-5 years or a traffic citation in the past 2-3 years may be helpful to identify impaired clients.

- Driving- reduced driving mileage is possibly associated with poor driving.

- Aggressive or personality characteristics are possibly useful to identify at risk clients.
Practice Parameter update

- Neuropsychological testing - insufficient evidence to support or refute the benefit.
- Interventions to reduce driving risk (training, license restrictions) - insufficient evidence to support or refute the benefit.
Practice Parameter update

Patients who continue to drive should be reassessed at 6 month intervals.

Patients with a CDR of 1.0 were 2 ½ times as likely as drivers without dementia to fail a drive test at a six month follow up.
Figure Sample algorithm for evaluating driving competence and risk management in patients with dementia.

Iverson D et al. Neurology 2010;74:1316-1324
THE CONVERSATION to Retire from Driving

The need to retire is a common element in the aging process.

“Driving Life Expectancy” in Years

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Men</th>
<th>Women</th>
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<tbody>
<tr>
<td>70-74</td>
<td>11.5</td>
<td>11.2</td>
</tr>
<tr>
<td>75-79</td>
<td>8.0</td>
<td>7.9</td>
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</table>

The Conversation to Retire from Driving

Bring up the subject sooner than later when signs and symptoms of a condition appear that could progress to compromise the ability to drive in a safe manner.
The Conversation to Retire from Driving

Discuss the current situation *

Family concerns

Fender benders/near misses

Police reports

Clinical Reports – Driving Rehab Specialist

* I drove many years without an accident
AAA Roadwise Review

Designed by health and driving experts, this interactive driving evaluation can help seniors drive safer, longer.

Interactive Driving Evaluation

Interested in knowing how visual, mental and physical conditions may affect your safety as a driver? AAA Roadwise Review can help. The confidential self-screening program features a series of computer-based exercises that can be completed in 30 to 45 minutes and help you identify steps to reduce risk in eight key areas.

Leg Strength & General Mobility
Dementia and Driving Resource Center

Driving demands quick reaction time and fast decision making – because of this, a person with Alzheimer's will eventually become unable to drive. Ideally, families should talk openly about driving soon after a diagnosis of Alzheimer's. Making decisions about when it is time to stop driving can be difficult, but dealing with the issue early on can help ease the transition.

Read more:

> Having the conversation
> Planning ahead
> Signs of unsafe driving
> Resources

Watch how four families deal with different issues related to dementia and driving.

A Supportive Conversation: Frank has early stage Alzheimer's and the doctor said it's no longer safe for him to drive. His wife doesn't drive, but knows it's time to discuss finding alternative transportation.