Assessing the Older Driver

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Objectives

- Practical office evaluation.
- Testing and reporting
- Dementia and driving
- Strategies for counseling
- On-line resources

The Problem

- 30 million people in the US over age 70 (2014)
- 79% drive
- Seniors driving more than they used to.

The Problem

- Despite common perception:
  - Increased age does not cause higher crash rates
  - Older drivers as a cohort account for a very small percentage of MVA’s

The Problem

- Low-mileage bias: Secondary to the types of roads traveled when you drive less.
- Fatality rate decreasing despite increasing drivers
  - Newer seatbelts and side airbags especially protective for the elderly.
  - Jury is still out on some of the new crash avoidance technologies.

The Problem

- However, motor vehicle fatalities are significantly higher in the elderly.
The Problem

- Failure to yield accidents are much more common in older drivers.
  - Drivers over the age of 70 were more likely to either not see another vehicle or to misjudge whether there was time to proceed.
- Older drivers are mostly a danger to themselves or their passengers.
  - In 2014, 73% of the fatalities during MVA's involving drivers over the age of 70 were either the driver or the passenger.

The Problem

- With aging
  - Increased risk of medical problems that affect driving
- More than half the states have one or more renewal provisions specific to older drivers.
  - Shorter renewal cycles, vision testing, road testing or in-person renewals
- Recent study found in-person renewals or vision testing lowered rate of fatal crash involvement in drivers over the age of 85
  - Unknown if this was achieved by removing unsafe drivers or by fostering premature driving cessation.

The Problem

- Driving is often critical for independence and cessation has been associated with
  - isolation
  - depression
  - overall decline in health
- Studies show that self-regulation works for most, but not all drivers.
- So... Should your patient stop driving? And if so, when?

Practical office evaluation

- Is your patient still driving?
- Red flags
  - Chronic medical conditions that affect driving
  - Medications that impair driving
  - Family member expressing concern
  - Observed difficulty with mobility or history of 2 or more falls:
  - History of a MVA
  - Damage to car for unknown reasons

Practical office evaluation

- Driving history: From patient
  - Are you comfortable driving?
  - Do you restrict your driving in any way?
  - Any close calls/accidents/citations?
  - Do you ever get lost driving?
  - Do signs or other cars sometimes seem to suddenly appear out of nowhere?

- Driving history: From passengers in car (preferably adult children)
  - Drives too slowly, doesn’t keep steady speed
  - Follows too closely or drifts out of lane
  - Makes turns from wrong lane
  - Doesn’t stop at signals or stops for no apparent reason
  - Confuses gas/brake pedal
  - The “grandchild” question
Practical office evaluation

• Medication review
  – Risk of injurious MVA increases with number of medications.
  
• Physical exam
  – Vision
    • Acuity (PA law requires 20/40 or better)
    • Visual fields (PA law requires 120 degrees)
  – ROM, fine and gross muscle strength, sensation, and “get up and go” gait test.
  – Cognition

4Cs Screening Tool

<table>
<thead>
<tr>
<th>Points</th>
<th>Crash</th>
<th>Family Concern</th>
<th>Clinical Condition</th>
<th>Cognitive Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No crash</td>
<td>None</td>
<td>Very Good Health</td>
<td>Intact</td>
</tr>
<tr>
<td>2</td>
<td>Fender Bender</td>
<td>Mild—discussion</td>
<td>Medical Condition—arthritis, frailty, neuropathy</td>
<td>MCI/intact fct</td>
</tr>
<tr>
<td>3</td>
<td>Citation</td>
<td>Moderate—no passengers</td>
<td>Medical Issue—CVA, early AD, PD, MS</td>
<td>Functional Assistance</td>
</tr>
<tr>
<td>4</td>
<td>Crash(es)</td>
<td>Severe—quit</td>
<td>Very Poor Health—advanced AD, PD, MS</td>
<td>Functional Dependence</td>
</tr>
</tbody>
</table>

• Family Concern & cognitive function independent predictors
• Score of ≥9 sensitivity 84% specificity 53%

Interventions

• Medication changes when appropriate.
• Vision deficits
  – Referral to an eye specialist
• Motor deficits
  – referral to PT and/or OT
  – Studies are mixed, but there is moderate evidence that physical training improves driving performance.

Interventions

• For seizure disorder, law requires that the pt be seizure free for 6 months
• Referral for a professional driving evaluation
• Report to the DMV

Additional testing

• OT driving assessment
  – vision, cognition, sensation, gross and fine motor skills, gait, and driving knowledge.
  – computer based program: “DriveABLE”
  – Cost is approximately $135

On the road testing

• Certified driving instructors.
  – 1-2 hour driving test in instructor’s car
  – written report to physician with observations/recommendations
  – Cost is approximately $100-125
On the road testing

- OT or certified driving rehab specialist:
  - O.T. evaluation followed by a 2 hour driving test
  - Written report that may include recommendations as to how to improve patients’ function and/or adapt their car.
  - Cost is approximately $400 (includes both off the road and on the road portions)

Reporting

- Department of Motor Vehicles
  - Possible outcomes for reporting in PA:
    1. Problem specific form sent to patient. Requires apt for completion within 30 days.
    2. Patient told to report to DMV within 30 days for additional testing.
    3. Restrictions placed on patient’s license (eg: daylight driving only).
    4. Patient’s license immediately recalled.
    5. No action on driving privileges.

Dementia and Driving

- These are the most difficult cases and where we need to focus our efforts.
- A useful resource for families:
  - The Hartford Foundation: At the Crossroads. A Guide to Alzheimer’s Disease, Dementia and Driving

- Cognition assessment tools
  - There are no off-road measures that are sufficiently accurate to allow determination of driving safety in cognitively impaired older drivers.

- Cognitive domains most important for driving include:
  - Visuospatial
  - Executive functioning
  - Mental flexibility
  - Functional ability

- Impulse control
- Judgment and problem solving
- Functional ability
  - ADL’s and IADL’s
  - Ability to participate in community and usual hobbies.
Dementia and Driving

• Cognition assessment
  – Clock drawing test – cut off score <=3
    • 65% specific, 70% sensitive
  – MVPT
    • 83% specific, 60% sensitive
  – Trail making B – cut off score < 3 errors
    • Meta-analysis mixed, but overall supports use.
    • Can see JCM 2017 by St. Louis
  – ADReS
    • tests vision, motor fct and cognition – clock drawing
      and trails B.
    • 32% specific, 61% sensitive

Dementia and Driving

• In patients with:
  – MCI – Normal clock and trails B
  – Intact functional status
  – No or mild family concerns

• Can continue to drive with f/u in 6 months or less

In patients with:
  – Mild to moderate dementia
  – Decline in daily functions
  – Mild to moderate family concerns
• Refer for a driving test/report to DMV

In pts with severe dementia or dependence on others, driving should cease.

Counseling

• Focus on planning/preventative medicine
• Focus on safety
• Focus on correctable medical problems:
  – Adjust medications or timing of medications
  – Improve vision when possible
  – Driving specific PT/OT programs
  – Vehicle alterations

Counseling

• Focus on alternative forms of transportation and/or limiting the need for transportation
  – Public transportation
  – Access/OPT
  – Taxis
  – Private drivers
  – Family and friends
  – Walking
  – Alternative living site
  – Home delivery services
Counseling

- In pts with dementia, support caregivers
  - Give them resources and educational materials
  - Disabling or taking away the car sometimes a necessary step.

- If driving cessation is necessary
  - Address emotions; follow up to look for depression and isolation
  - Consider referring to a specialist to preserve the doctor/pt relationship.

Future Directions?

- Crash avoidance technologies
  - Effective interventions thus far:
    - Front crash prevention (automatic braking)
    - Curve adaptive headlights
    - Electronic stability control

- Advanced Driver Assistance Systems
  - Preliminary studies show benefit in helping older drivers maneuver intersections.

- More studies needed.

Resources

- **www.thehartford.com/alzheimers**
  - Excellent web site for dementia and driving issues for families
    - Tips for family conversations about dementia and driving, for monitoring driving, and for easing the transition from driver to passenger. Includes pt driving contracts and driving warning sign sheets.
    - Can get a free copy of “At the Crossroads. A guide to Alzheimer’s Disease Dementia and Driving” and “We need to talk... Family conversations with older drivers” which includes very helpful “getting there” and “transportation cost” worksheets for pts.

- **geriatricscareonline.org/ProductAbstract/clinician's-guide-to-assessing-and-counseling-older-drivers/B022**
  - Created jointly by AGS and National Highway Traffic Safety Administration.
  - Comprehensive guide

- **www.seniordriving.aaa.com**
  - Links to:
    - Computer-based screening tools that allows seniors to check their driving abilities.
    - Roadwise Rx – provides confidential, individualized feedback about users medication interactions, highlighting how these effects may impact driving.
    - Driver refresher course availability.
    - Carfit – tool to assess how well your car fits your needs.

- **www.aarp.org/families/driver_safety/**
  - Locations of closest aarp driver safety courses and an online course.

- **www.dmv.state.pa.us/**
  - Click on “Driver Services”, “Mature Drivers” and then “Medical Reporting” to get downloadable reporting forms
  - Helpful medical reporting fact sheet