Driving Evaluation in Dementia: Progress and Pitfalls

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Driver Fatality Rate
(per 100 million vehicle miles travelled)

Source: FARS 2001 and NHTSA 2001

Courtesy BCAA
Traffic Safety Division

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Increased At Fault Crash Risk from Medical Conditions


Courtesy BCAA
Traffic Safety Division
The problem is a medically at risk driver

Not just an older driver issue
What can be done to assess driving safety?

- Ask about driving
- Cognitive testing in the office
- SIMARD-MD screen
- Refer to the OSMV for DriveABLE
Cognitive Testing

- Limited correlations of tests & driving
- MMSE has poor correlation at high range
- Flags raised by:
  - Poor visual-spatial (clock & pentagons)
  - Poor divided attention (Trails B)
  - Slow motor speed or processing
SIMARD-MD
Screen to Identify the Medically at Risk Driver –
A Modification of the Demtect

- Test now used by BC OSMV to screen for
cognitive impairment for driving
- A screening tool that can be used in a family
physician’s office
- Pen & paper test, 5-7 minutes
- One published article – initial & validation study

Dobbs, B & Schopflocher, Journal of Primary Care &
Community Health, 1:119, 2010
SIMARD–MD Study

- Mild Cognitive Impairment, Mild AD, and healthy seniors were studied
- Compared Results on SIMARD-MD with a specialized road test (DriveABLE)
- 400 individuals in 2 studies
- 2/3 men, age 77, education Grade 12.5
- Average MMSE was 26

Dobbs, B & Schopflocher, Journal of Primary Care & Community Health, 1:119, 2010
DriveABLE Road Test Results in SIMARD-MD Study

• Half the participants failed the road test

• MMSE < 24 (1/5 of group): 82% failed
• MMSE 24 & above: 58% failed

• 5 healthy controls failed
SIMARD-MD vs Probability of Road Test Failure

Dobbs, B & Schopflocher, Journal of Primary Care & Community Health, 1:119, 2010
SIMARD-MD
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Score: \begin{align*}
\leq 30: & \text{ Failure likely} \\
31-70: & \text{ Uncertain} \\
> 70: & \text{ Pass likely}
\end{align*}

www.mard.ualberta.ca Dobbs, B & Schopflocher, 2010
SIMARD-MD & Probability of Road Test Pass/Fail

<table>
<thead>
<tr>
<th>On-Road Results</th>
<th>Fail</th>
<th>Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted Fail</td>
<td>42</td>
<td>7</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>40</td>
<td>49</td>
</tr>
<tr>
<td>Predicted Pass</td>
<td>7</td>
<td>36</td>
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</tbody>
</table>

*Percent of those predicted to fail and subsequently failed = 86%. Percent of those predicted to pass and subsequently passed = 84%.

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</tbody>
</table>

*Percent of those predicted to fail and subsequently failed = 80%. Percent of those predicted to pass and subsequently passed = 87%.

Dobbs, B & Schopflocher, Journal of Primary Care & Community Health, 1:119, 2010
Issues with SIMARD-MD

• Type of questions not really correlated with skills needed for driving
• Limited studies
• How does it perform with
  – other types of cognitive problems or dementia
  – Limited education
  – ESL
DriveABLE: Screen & Road Test

Now at your local CBI and MVB

www.driveable.com
Who is referred to OSMV for DriveABLE?

- Some concerns raised by history or cognitive tests in a patient with or without dementia
- Mild dementia with concerning symptoms but reasonable driving by reliable collateral
- An uncertain score on SIMARD-MD
Future Directions

• No single cognitive assessment tool reliably predicts ‘on road’ driving ability – is it reasonable to use this new screening tool?

• What is the degree of risk acceptable for driving?

• More data needed on outcomes of medical and cognitive screens and accident rates, not just rate of failing a driving test