TITLE: Optimal Method for Driving Assessment in Older Adults and in Patients who have had a Cerebrovascular Accident: Clinical Evidence, Cost-Effectiveness, and Guidelines

DATE: 08 January 2013

RESEARCH QUESTIONS:

1. What is the clinical evidence regarding the optimal method for assessing fitness to drive in older adults?

2. What is the clinical evidence regarding the optimal method for assessing fitness to drive in adults who have had a cerebrovascular accident?

3. What is the cost-effectiveness of the various methods to assess fitness to drive in older adults?

4. What is the cost-effectiveness of the various methods to assess fitness to drive in adults who have had a cerebrovascular accident?

5. What are the evidence-based guidelines regarding the optimal method for assessing fitness to drive in older adults or those who have had a cerebrovascular accident?

KEY MESSAGE

One systematic review and five non-randomized studies were identified regarding the optimal method for assessing fitness to drive in older adults or those who have had a cerebrovascular accident.

METHODS

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

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A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2012, Issue 12), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No methodological filters were applied to limit retrieval by publication type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2007 and December 17, 2012. Internet links were provided, where available.

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

One systematic review and five non-randomized studies were identified regarding the optimal method for assessing fitness to drive in older adults or those with cerebrovascular accident. No economic evaluations were identified regarding the cost-effectiveness of the various methods for assessing fitness to drive in older adults or those who have had a cerebrovascular accident. In addition, no evidence-based guidelines were identified for the optimal method for assessing fitness to drive in older adults or those who have had a cerebrovascular accident. Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Three non-randomized studies\textsuperscript{2,3,4} were identified that considered various methods of assessing fitness to drive in older adults. Compared with the Mini-Mental State Examination (MMSE), the Addenbrooke’s Cognitive Examination Revised (ACE-R) was more accurate in detecting unsafe older drivers.\textsuperscript{4} In addition, the Maze Tests were predictive of prospective crashes and could be used alongside other tests to identify at-risk older drivers.\textsuperscript{2} The MMSE in isolation was not sensitive enough to predict on-road performance in community dwelling older drivers or those with Parkinson’s Disease.\textsuperscript{3}

One systematic review\textsuperscript{1} and two non-randomized studies\textsuperscript{5,6} were identified that considered various methods of assessing fitness to drive in adults with cerebrovascular accident. Clinically administrable office-based tests such as The Road Sign Recognition, Compass, and the Trail Making Test B were effective at identifying stroke survivors at risk of failing an on-road driving assessment.\textsuperscript{1} Additionally, a short assessment battery was also a good predictor of fitness to drive in stoke survivors with moderate physical and cognitive impairments (without severe deficits).\textsuperscript{6} In contrast, the cognitive test battery Nordic Stroke Driver Screening Assessment (NorSDSA) was unable to predict the outcome of on-road tests in persons with stroke, and was not recommended for use in isolation to determine fitness to drive.\textsuperscript{5} The NorSDSA was also less successful at determining fitness to drive in patients suffering from cognitive deficits/dementia compared with stroke survivors.\textsuperscript{5}

No relevant literature was found regarding the cost-effectiveness of the various methods for assessing fitness to drive in older adults or those who have had a cerebrovascular accident. In addition, no evidence-based guidelines were identified for the optimal method for assessing fitness to drive in older adults or those who have had a cerebrovascular accident.
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses


Randomized Controlled Trials
No literature identified.

Non-Randomized Studies


Economic Evaluations
No literature identified.

Guidelines and Recommendations
No literature identified.

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**APPENDIX – FURTHER INFORMATION:**

**Systematic Reviews and Meta-analyses – Additional Interest**


**Guidelines – Methodologies Not Indicated**


**Review Articles**


**Additional References**


