Driving medical assessment in older drivers: validation study of 3-Domains toolkit

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Background: The 3-Domains toolkit is a screening toolkit that can be used in general practice during annual driving medical assessment in older drivers (≥75y) in general practice. The toolkit comprises visual acuity using a Snellen chart; the functional reach test; and the road signs recognition test, measuring across the three functional domains essential for driving: sensory, motor and cognitive. The three test scores combine to predict the likelihood an older driver would pass an on-road driving test. The toolkit has not yet been validated for use in older drivers in Australia.

Purpose: To evaluate the effectiveness of the 3-Domains toolkit in predicting on-road driving test outcome in older drivers in Queensland.

Methods: Validation study in the Occupational Therapy Driving Assessment & Rehabilitation Service, Princess Alexandra Hospital (PA), Brisbane. Occupational therapists will use the three tests during routine assessments in at least 100 older drivers (aged 75 years or older) referred to the clinic for a comprehensive on-road driving assessment. The predictive validity of the toolkit in determining participants’ fitness to drive will be displayed in a table with 5 rows (0-20% | 20-40% | 40-60% | 60-80% | 80-100% prediction of passing) and 3 columns (pass | conditionally pass | fail) with absolute numbers and row percentages given. A receiver operating characteristic (ROC) curve will be produced, and the area under the ROC curve (AUC) calculated. Other statistics, such as sensitivity, specificity, positive and negative predictive values may also be calculated for a cutpoint(s). The driving assessment outcome will be dichotomized into pass/fail categories. Participants in the category “conditional” will be merged with the category “fail”.

Results: Recruitment and data collection on-going.

Conclusion: The 3-Domains toolkit could be used regularly in general practice to inform clinical judgement during annual driving medical assessment in older drivers.

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The researchers gratefully acknowledge the Motor Accident Insurance Commission and the RACGP Foundation for their support of this project.