3-Domains screening toolkit for older driver medical assessment

Assessing across the three functional domains essential for driving and generating a combined score to inform clinical judgement and support conversations about fitness to drive in older age.

1.   Sensory domain: Visual acuity

Measure visual acuity with or without glasses or contact lenses for both eyes together using a standard visual acuity chart (Snellen chart) with five letters on the 6/12 line. More than two errors in reading the letters on any line is regarded as a failure to read that line. Enter score into online calculator (e.g. enter "0.5" for 6/12; enter "0.5" for 6/12-2).

A score of at least 6/12 (0.5) is the minimal requirement for driving in Australia (<0.5 = fail).

2.   Motor domain: Functional reach test

Older driver stands with one arm extended forward and makes a fist (START). They reach forward as far as possible (FINISH). No contact with wall is allowed. If they touch the wall or take a step, repeat the test. Best of 3 attempts.

Measure between START and FINISH positions of the third metacarpal (cm). Enter score (cm) into online calculator.
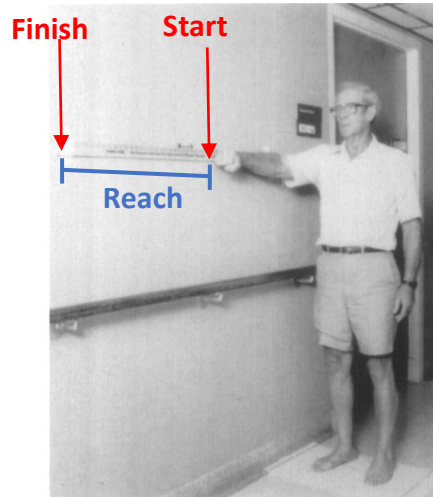
Duncan PW et al. Functional reach: A new clinical measure of balance. J Gerontol Med Sci. 1990;45(6):M192-197

3.   Cognitive domain: Road sign recognition test

Place the road situation cards (pages 1 and 2) in front of older driver, spread the 12 road sign cards in any order below the pages with road situations. Explain the test as follows:

> *"I would like you to put each road sign on the picture of the road situation that it matches best. For example, this card shows a broken traffic light* (point to the 'example' road situation card). *The sign that best matches this situation is the one indicating a traffic light out of action* (pick out the 'broken traffic light' road sign). *So this road sign* (broken traffic light) *goes with this picture* (place the 'broken traffic light' road sign on the 'example' card). *Now you do the rest."*

Begin timing 3 minutes. If the older driver forgets the instructions or requests a repetition, the instructions can be repeated once using the same wording. After that no further explanation should be given. No feedback about performance is given. People are encouraged to persevere by giving non–specific feedback such as *'that's fine'*. Score 1 point for each correct match within 3 minutes. If the older driver puts several cards in a pile, score only the top card. Maximum score 12 points in 3 minutes. Enter score into online calculator.

Lincoln NB, Radford KA, Nouri FM. 2016. Stroke Drivers' Screening Assessment Australian Version, Manual Revised 2016. University of Nottingham. https://www.nottingham.ac.uk/medicine/documents/published-assessments/sdsa-manual-2016-australia.pdf

4.   Combined predictive score (likelihood of passing on-road driving assessment)

Enter the three test scores into online calculator to generate combined predictive score (%) (https://medicine-program.uq.edu.au/3-domains-toolkit). Discuss score with older driver.

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Example score sheet

Name: *Mickey Mouse*   **Date of birth:** *18 Nov 1928*   **Age:** *92y*

Date: *24 Nov 2020*	Score
Visual acuity (eg. 6/12 or 0.5)	*0.5*
Functional reach test (cm)	*32*
Road signs recognition (max 12)	*11*
Calculator combined predictive score	*75%*

Online calculator is available at: https://medicine-program.uq.edu.au/3-domains-toolkit

Calculator: 3-Domains Toolkit for driving medical assessment in older drivers

Snellen chart score	`0.5`	Please enter in decimal format
Functional reach	`32`	cm
Road signs recognition	`11`	Number between 0 and 12 [Calculate]
Total	`75%`	Likelihood older driver would pass on-road driving test

[Reset]

The online calculator combines the three test scores to generate a combined predictive score which is the likelihood (%) the older driver would pass on-road driving assessment.

The calculator combined predictive score (%) can be used by GPs in practice to:

- *Inform clinical judgement*
- *Support conversations* with older drivers about health and fitness to drive, the need for further testing, and/or planning for eventual driving cessation.