

## **Cue-assisted physical performance tests to identify older adults with dementia who have a history of falls**

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### **Background**

Older adults with dementia have a two-to-threefold higher risk of falls compared to their cognitively healthy peers, with poor physical performance being a known risk factor. However, common physical performance tests are often difficult for this population to complete due to comprehension and execution difficulties, questioning their utility in identifying fallers. This study investigated the ability of cue-assisted physical performance tests to distinguish between older adults with dementia with and without a history of falls.

### **Methods**

Eighty-four older adults with dementia who can walk 10 m with or without a walking aid independently were recruited. Participants completed a battery of common physical performance tests with and without a progressive cueing system. This system provided standardized verbal, visual, and physical cues if a participant could not follow test instructions. Fall history over the past year was collected via informant report. Analysis of covariance, controlling for neuropsychiatric symptoms, compared the physical performance of fallers and non-fallers.

## **Results**

Participants with a fall history performed significantly worse than non-fallers on the Timed Up and Go ( $p=.041$ ), Berg Balance Scale ( $p=.049$ ), and the single-task 10-Meter Walk Test ( $p=.048$ ). In contrast, when the tests were administered without cues, no significant performance differences were observed between the groups (all  $p>.05$ ).

## **Discussion**

Common physical performance tests may fail to capture fall risk in older adults with dementia. The integration of a progressive cueing system enhances the ability of these tests to identify individuals with a history of falls and, thereby, improve fall risk stratification in this vulnerable population.

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