

A decision algorithm for detection of fall risk status.

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Introduction: Preventing falls is a priority in the National Service Framework for older people. Recent guidelines have suggested that older people should be screened annually for risk of falling, but pointed to a lack of evidence to inform the content and format of screening programmes (AGS/BGS 2001).

Aim: Decision modelling to inform the content and format of screening for risk of falling in community dwelling older women.

Methods: A population based sample representing the one-third most disabled women aged > 65 years living in Baltimore (USA) (n=1002).

Baseline examination included a wide range of known risk factors for falling - fall history, fear of falling, self-reported difficulties balancing, chair rise, 4m walk speed, balance tests, handgrip strength, cognitive status, vision, incontinence and depression. Tree based regression was used to model the cut-points and sequence of tests that best predicted fall status over a one and two year follow up period.

Results: In the first year, 18% of women experienced a new fall, 23% experienced a repeat fall, and 16% recovered from being a faller. The optimal screening algorithm was two-stage with history of previous falls being most important (cut point = 1 or more falls), and the time to complete the first metre of a short walking test (<1.5m/s) adding further significant improvement to the model. The error rate of this model was 34%, with most error being associated with predicting falls in women who had not fallen previously. Longer-term prediction was tenuous.

Conclusion: The results support an algorithm that is simple but requires face-to-face contact with the older person, and that should be at a minimum, annual. Being able to predict people who recover from falls is a novel contribution. Models based on self-reported measures, and change in variables over time will be presented for comparison.

Refs: Guideline for the prevention of falls in older persons: JAGS 2001  
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