

## CAHE JC Critically Appraised Article Summary

### Journal Club Details

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<b>Date of submission</b>	June 2009
<b>Journal Club location</b>	Southern Therapy Service
<b>JC Discipline/s</b>	Multidisciplinary
<b>JC Facilitator</b>	Sue McGuinness

### Clinical Scenario

Are there any foot/ankle factors which predispose the elderly to falls?

### Review Question/PICO/PECOT

<b>P</b>	Elderly people
<b>E</b>	Any risk factor (associated with ankle and foot)
<b>C</b>	NA
<b>O</b>	Falls
<b>T</b>	Short and long term

### Article/Paper

Menz HB, Morris ME & Lord SR 2006, 'Foot and ankle risk factors for falls in older people: A prospective study', Journal of gerontology, vol. 61A(8): 866-870

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<b>Article Methodology:</b>	Cohort (observational) study
<b>Returned JC on:</b>	11 June 2009
<b>By CAHE staff member:</b>	Zuzana Machotka

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 Centre for Allied Health Evidence

Ques No.	Yes	Can't Tell	No	Comments
1	✓			<b>Did the study address a clearly focused issue?</b> The of this study was to examine whether a range of standardized tests of foot and ankle characteristics previously shown to be associated with impaired balance are also risk factors for falls in older people
2	✓			<b>Did the authors use an appropriate method to answer their question?</b> 176 subjects residing in a retirement village underwent tests of foot and ankle characteristics and physiological falls risk factors and were followed over 12 months to determine incidence of falls
3	✓			<b>Was the cohort recruited in an acceptable way?</b> Excluded subjects were those that could not ambulate household distances without a mobility aide or if they scored <7 on the short portable mental status questionnaire. Bias may be seen with recruiting all subjects from the one retirement village. All residents received a recruitment mail out and participant rate was 54%
4	✓			<b>Was the exposure accurately measured to minimize bias?</b> Exposure to falls would be similar to that of ambulatory persons living in their own environment within a retirement village
5	✓			<b>Was the outcome accurately measured to minimize bias?</b> Subjects were issued with monthly calendars to document falls and a standardised post fall interview was conducted as soon as possible after. As these are subjective measures there is subjective bias to results of this study.
6	✓			<b>Have the authors identified all important confounding factors?</b> Medical conditions, medication use, physical activity and mobility and ADL limitations were recorded for all participants & converted into percentages for the cohort population & displayed in table form. A mean & standard deviation of the ages of participants was calculated.
	✓			<b>Have they taken account of the confounding factors in the design and/or analysis?</b> Foot and ankle characteristics were assessed but whom and how many people performed the assessments was not reported. A physiological profile assessment Short form assessment was completed by all subjects which gives an overall falls risk score after completion
7	✓			<b>Was the follow up of subjects complete enough?</b> There were no drop outs.
	✓			<b>Was the follow up of subjects long enough?</b> Subjects were followed up after 12 months

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Ques No.	Yes	Can't Tell	No	Comments
8				<p><b>What are the results of this study?</b></p> <p>On follow up, 71 from 175 subjects (41%) recorded at least one fall. Fallers were significantly older (81.4 +/-6.4) than non-fallers (P=0.022). Prevalance of medical conditions was found not to be significant among fallers.</p> <p>Fallers had significantly reduced ankle flexibility, more severe hallux valgus deformity, reduced tactile sensivity and significantly higher risk of failing the paper grip test with their lesser toes.</p> <p>Physiological falls risk scores were significantly higher for the fallers compared to the non-fallers (p=0.008)</p> <p><u>Bottom line:</u></p> <p>This study provides evidence that some foot and ankle characteristics can be risk factors associated with falls in an older population (~81 years old) living in retirement villages. In addition the physiological profile assessment can be a useful questionnaire predicting those that are at a higher risk of falling.</p>
9				<p><b>How precise are the results?</b></p> <p>Standard deviations were given for the ages of fallers versus non-fallers and similarly with the physiological falls risk scores. Significant p values were given for foot and ankle characteristics, ages and physiological falls risk scores.</p> <p><b>How precise is the estimate of the risk?</b></p> <p>All subjects were exposed to risk due to the nature of the study design (observational). Those subjects that were identified as high risk of falling from the physiological profile assessment were shown to be significantly more like to have had a fall on 12 month follow up.</p>
10	✓			<p><b>Do you believe the results?</b></p> <p>Yes. This study used sound statistical analysis, an appropriate study design and did refer to 'current available ' research data</p>
11	✓			<p><b>Can the results be applied to the local population?</b></p> <p>This study was based in Victoria, Australia and could be preventative of a local retirement village</p>
	✓			<p><b>Do the results of this study fit with other available evidence?</b></p> <p>The background of this study refers to previous studies that have shown various foot problems as a risk factor for falls in the elderly. In addition the authors refer to a previous study, which has demonstrated that older people with foot problems are at a higher risk of falls which does correlate to the results of this study.</p>