**Supplementary Material**

**Appendix S1**

***MEDLINE Search Strategy* *(conducted March 19, 2015)***

1. "Aged, 80 and over"/ or Aged/

2. Frail Elderly/

3. (frail adj2 elder\*).tw.

4. Geriatrics/

5. geriatrics.tw.

6. elderly.tw.

7. senior\*.tw.

8. (older adj2 adult\*).tw.

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. Emergency Service, Hospital/

11. (emergency adj2 service\*).tw.

12. Trauma Centers/

13. (trauma adj2 cent\*).tw.

14. (emergency adj2 department\*).tw.

15. (emergency adj2 room\*).tw.

16. (emergency adj2 unit\*).tw.

17. (emergency adj2 ward\*).tw.

18. (accident adj3 emergency).tw.

19. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18

20. Mobility Limitation/

21. (mobility adj2 limit\*).tw.

22. Walking/

23. Dependent Ambulation/

24. Geriatric Assessment/

25. (geriatric adj2 assessment\*).tw.

26. Early Ambulation/

27. (difficulty adj2 walk\*).tw.

28. (walk adj2 test\*).tw.

29. (physical adj2 performance).tw.

30. ambulation.tw.

31. 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30

32. (timed up and go).tw.

33. sit-to-stand.tw.

34. half-turn test.tw.

35. alternate-step test.tw.

36. lie to sit to stand.tw.

37. (walk adj test\*).tw.

38. 32 or 33 or 34 or 35 or 36 or 37

39. 31 or 38

40. 9 and 19 and 39

***Embase Search Strategy* *(conducted March 21, 2015)***

1. aged.tw.

2. frail elderly/

3. (frail adj2 elder\*).tw.

4. geriatrics/

5. aged/

6. elderly.tw.

7. senior\*.tw.

8. (older adj2 adult\*).tw.

9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8

10. emergency health service/

11. (emergency adj2 service\*).tw.

12. (trauma adj2 cent\*).tw.

13. (emergency adj2 department\*).tw.

14. (emergency adj2 room\*).tw.

15. (emergency adj2 unit\*).tw.

16. (emergency adj2 ward\*).tw.

17. (accident adj3 emergency).tw.

18. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17

19. walking difficulty/

20. (mobility adj2 limit\*).tw.

21. walking/ or gait/ or walking speed/

22. geriatric assessment/

23. (geriatric adj2 assessment\*).tw.

24. mobilization/

25. (difficulty adj2 walk\*).tw.

26. (walk adj2 test\*).tw.

27. (physical adj2 performance).tw.

28. ambulation.tw.

29. 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28

30. sit-to-stand.tw.

31. half-turn test.tw.

32. alternate-step test.tw.

33. lie to sit to stand.tw.

34. (walk adj2 test\*).tw.

35. 30 or 31 or 32 or 33 or 34

36. 29 or 35

37. 9 and 18 and 36

***Cochrane Search Strategy* *(conducted March 23, 2015)***

1. (frail adj2 elder\*).tw.

2. geriatrics.tw.

3. elderly.tw.

4. senior\*.tw.

5. (older adj2 adult\*).tw.

6. 1 or 2 or 3 or 4 or 5

7. (emergency adj2 service\*).tw.

8. (trauma adj2 cent\*).tw.

9. (emergency adj2 department\*).tw.

10. (emergency adj2 room\*).tw.

11. (emergency adj2 unit\*).tw.

12. (emergency adj2 ward\*).tw.

13. (accident adj3 emergency).tw.

14. 7 or 8 or 9 or 10 or 11 or 12 or 13

15. (mobility adj2 limit\*).tw.

16. (geriatric adj2 assessment\*).tw.

17. (difficulty adj2 walk\*).tw.

18. (walk adj2 test).tw.

19. (physical adj2 performance).tw.

20. ambulation.tw.

21. 15 or 16 or 17 or 18 or 19 or 20

22. (timed up and go).tw.

23. (up and go).tw.

24. sit-to-stand.tw.

25. half-turn test.tw.

26. alternate-step test.tw.

27. lie to sit to stand.tw.

28. (walk adj2 test\*).tw.

29. 22 or 23 or 24 or 25 or 26 or 27 or 28

30. 21 or 29

31. 6 and 14 and 30

Note: search strategies for CINAHL, PEDro and OTSeeker are available upon request.

**Supplementary Appendix S2**

**Figure S2. *Data Extraction Form***

**Data Extraction Form**

**Assessor:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Title:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Section 1: Verify Inclusion Criteria**

Included Studies must meet all of the following:

Patients: adults aged ≥ 65 years ❑ Yes ❑ No

Intervention: a physical mobility assessment ❑ Yes ❑ No

Setting: the Emergency Department (ED) ❑ Yes ❑ No

Study design: RCT, observational cohort or case-control ❑ Yes ❑ No

\*\*\*If you checked off ‘No’ to any of the above, STOP HERE – exclude study\*\*\*

**Section 2: Study Details**

First Author: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Journal: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Year, volume and page numbers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Country: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Study type (e.g. RCT): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Language: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sample size: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mobility assessment test (e.g. TUG): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Additional test details (e.g. cutoff for TUG): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Primary outcome: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Outcome measure with 95%CI (e.g. OR with CI): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Any secondary outcomes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Additional Notes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Supplementary Appendix S3**

**Table S3. *Excluded Studies following Full Text Review***

|  |  |
| --- | --- |
| **REFERENCE** | **REASON FOR EXCLUSION** |
| Anaf, S (2007) | Did not meet age criteria |
| Ballabio, C (2008) | No formal physical mobility assessment |
| Basic, D (2005) | No formal physical mobility assessment |
| Basic, D (2009) | Non ED setting |
| Bodilsen, AC (2016) | Non ED setting |
| Birks, Y (2003) | Not clinical trial; commentary |
| Boye, N (2013) | Non ED setting |
| Boye, N (2015) | Duplicate study (same trial data as 2013 study) |
| Bruun, I (2014) | Non ED setting |
| Dresden, S (2013) | Insufficient data (abstract only) |
| Gentric, A (1996) | Insufficient data (no data on outcome) |
| Hendin, A (2013) | Insufficient data (abstract only) |
| Hockings, RL (2013) | Non ED setting (combined ED and inpatient) |
| Lightbody, E (2002) | No formal physical mobility assessment |
| Murray, KJ (2005) | Did not meet age criteria |
| Roedersheimer, KM (2014) | Insufficient data (abstract only) |
| Roedersheimer, KM (2016) | Non-applicable outcome measure |
| Roussel-Laudrin, S (2005) | Non ED setting |
| Schoenenberger, AW (2014) | Insufficient data (combined mobility score) |
| Stiffler, KA (2013) | Non-applicable outcome measure |
| Villalonga, MA (2005) | No formal physical mobility assessment |
| Wong, EM (2009) | Insufficient data (abstract only) |
| Young, J (2013) | Insufficient data (abstract only) |

**Supplementary Appendix S4**

**Table S4: Summary of Mobility Assessments**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test** | **How to Perform** | **Scoring** | **Interpretation** |
| **Get Up and Go** | Ask the patient to perform the following:   1. Sit in a straight-backed chair 2. Rise from the chair 3. Stand still momentarily 4. Walk 3 metres 5. Turn around and walk back to the chair 6. Sit down in the chair | 1 = Normal  2 = Very slightly abnormal  3 = Mildly abnormal  4 = Moderately abnormal  5 = Severely abnormal | Score ≥3 = at risk for falling |
| **Timed Up and Go** | Time to completion (seconds) | Reference Values\*†   |  |  | | --- | --- | | Age (years) | Time (seconds) | | 60 – 69 | 8.1 | | 70 – 79 | 9.2 | | 80 – 99 | 11.3 | |
| **Tandem Gait** | Instruct the patient to walk heel-to-toe along a 10-foot line as quickly as possible without errors | Inability to perform (not walking heel-to-toe, stepping off the gait line, and/or losing balance | Able or unable to perform test |
| **Tinetti Fall Risk Screen** | Gait (7 items)   1. Initiation of gait 2. Step length & height 3. Step symmetry 4. Step continuity 5. Path 6. Trunk 7. Walk stance   Balance (9 items)   1. Sitting balance 2. Arise 3. Attempts to arise 4. Immediate standing balance 5. Standing balance 6. Nudge 7. Eyes closed 8. Turn 360° 9. Sit down | Maximum Points:  Gait = 12 points  Balance = 16 points  Overall = 28 points | <19 = high risk for falls  19 – 24 = risk for falls |

\*Bohannon et al. Reference Values for the Timed Up and Go Test: A Descriptive Meta-Analysis. *J Geriatr Phys Ther* 2006; 29:64.

†Note: cutoffs used in the literature are variable