

Supplementary table 1 Sample search strategy EMBASE

| DATABASE | EMBASE |
|----------|---|
| DATE | 10/06/2016 |
| STRATEGY | #1 AND #2 AND #3 AND #4 AND #5 AND #6 AND #7 |
| #1 | ('cognitive task' OR 'concurrent task' OR 'dual task' OR 'dual task' OR ' OR 'dual task paradigm' OR 'dual task paradigm' OR 'cognitive task training' OR 'dual task training' OR 'dual task training')/de OR (cognitive task OR concurrent task OR dual task OR dual task OR dual task paradigm OR dual task paradigm OR cognitive task training OR dual task training OR dual task training):ti,ab |
| #2 | ('postural stability' OR 'posture' OR 'balance' OR 'balance stability' OR 'static stability' OR 'dynamic stability' OR 'balance perception')/de OR (postural stability OR posture OR balance OR balance stability OR static stability OR dynamic stability OR balance perception);ti,ab |
| #3 | ('balance test' OR 'stability test' 'force plate analysis' OR 'centre of pressure sway' OR 'centre of gravity sway' OR 'centre of mass sway' OR 'centre of pressure analysis' OR 'centre of gravity analysis' OR 'centre of mass analysis' OR 'posturographic analysis' OR 'perturbation analysis' OR 'sensory-orientation test' OR 'sway analysis' OR 'postural stability index' OR 'stability index' OR 'Berg balance scale' OR 'functional reach test' OR 'time up and go test' OR 'activity specific balance confidence scale' OR 'star excursion balance test' OR 'modified star excursion balance test' OR 'CoP' OR 'CoM' OR 'CoG' OR 'SOT' OR 'ABC' OR 'TUG' OR 'FRT' OR 'SEBT' OR 'MSEBT')/de OR (balance test OR stability test force plate analysis OR centre of pressure sway OR centre of gravity sway OR centre of mass sway OR centre of pressure analysis OR centre of gravity analysis OR centre of mass analysis OR posturographic analysis OR perturbation analysis OR sensory-orientation test OR sway analysis OR postural stability index OR stability index OR Berg balance scale OR functional reach test OR time up and go test OR activity specific balance confidence scale OR star excursion balance test OR modified star excursion balance test OR CoP OR CoM OR CoG OR SOT OR ABC OR TUG OR FRT OR SEBT OR MSEBT);ti,ab |
| #4 | ('fall' OR 'poor posture' OR 'imbalance' OR 'balance impairment' OR 'poor balance' OR 'instability' OR 'neurological impairment' OR 'neurological disorder' OR 'parkinsonism' OR 'parkinsons disease' OR 'ataxia' OR 'cerebellar disorder' OR 'multiple sclerosis' OR 'stroke' OR 'neuropathy' OR 'alzheimer's disease' OR 'paralysis' OR 'depression' OR 'PD' OR 'MS')/de OR (fall OR poor posture OR imbalance OR balance impairment OR poor balance OR instability OR neurological impairment OR neurological disorder OR parkinsonism OR parkinsons disease OR ataxia OR cerebellar disorder OR multiple sclerosis OR stroke OR neuropathy OR alzheimer's disease OR paralysis OR depression OR PD OR MS);ti,ab |
| #5 | ('rehabilitation' OR 'treatment' OR 'rehab' OR 'management' OR 'therapy' OR 'physiotherapy' OR 'physical therapy' OR 'prevention' OR 'risk prevention')/de OR (rehabilitation OR treatment OR rehab OR management OR therapy OR physiotherapy OR physical therapy OR prevention OR risk prevention);ti,ab |
| #6 | ('age groups' OR 'adolescent' OR 'young' OR 'elderly' OR 'old' AND ('gender' OR 'male' OR 'female') AND ('athlete' OR 'elite athlete' OR 'recreational athlete' OR 'novice athlete' OR 'trained athlete' OR 'sedentary'))/de OR (age groups OR adolscent OR young OR elderly OR old AND (gender OR male OR female) AND (athlete OR elite athlete OR recreational athlete OR novice athlete OR trained athlete OR sedentary));ti,ab |
| #7 | clinical trial/exp OR ('intervention study' OR 'cohort analysis' OR 'longitudnal study' OR 'cluster analysis' OR 'crossover trial' OR 'cluster analysis' OR 'randomized trial' OR 'major clinical study')/de OR (longitudinal OR cohort OR crossover trial OR cluster analysis OR randomized trial OR clinical trial OR controlled trial);ti,ab |

Individual studies: Type, country & assessment intervention

1. Choi JH, Kim BR, Han EY, Kim SM, 2015: RCT, Korea, sway analysis & berg balance scale.
2. An et al. 2014: CCT, Korea, sway analysis, time up and go test & functional reach test.
3. Kim, Ko, & Woo, 2013: CCT, Korea, sway analysis, functional reach test & berg balance scale.
4. Buragadda, Alyaemni, Melam, & Alghamdi, 2012: CCT, India, Berg balance scale, activity based confidence scale.
5. Hiyamizu M, Morioka S, Shomoto K, Shimada T, 2011: RCT, Japan, chair stand test, functional reach test, time up and go test.
6. Li et al., 2010: CCT, Canada, single support balance, sway analysis & sit to stand test.
7. Silsupadol et al., 2009: RCT, USA, Berg balance scale, activities based confidence scale.
8. Pellecchia, 2005: CCT, USA, sway analysis.
9. Jacobi H, Alfes J, Minnerop M, Konczak J, Klockgether T, Timmann D, 2015: CCT, Germany, sensory organization test.
10. Prosperini L, Castelli L, Sellitto G, De Luca F, De Giglio L, Gurreri F, Pozzilli C, 2015: CCT, Italy, sway analysis.
11. Andrade et al., 2014: CCT, Brazil, sway analysis.
12. Boes MK, Sosnoff JJ, Socie MJ, Sandroff BM, Pula JH, Motl RW, 2012: CCT, sway analysis.
13. Negahban H, Mofateh R, Arastoo AA, Mazaheri M, Yazdi MJS, Salavati M, Majdinasab N, 2011: CCT, Iran, sway analysis.
14. Holmes J, Jenkins M, Johnson AM, Adams S, Spaulding S, 2010: CCT, Canada, sway analysis.
15. Marchese R, Bove M, Abbruzzese G, 2003: CCT, Italy, sway analysis.
16. Morris, Ianseck, Smithson, & Huxham, 2000: CCT, Australia, internal and external perturbations to centre of mass.
17. Lanzarin et al., 2015: CCT, Brazil, Sensory organization test.
18. Bergamin et al., 2013, Italy, sway analysis.

19. Hwang, Lee, Chang, & Park, 2013: CCT, Korea, sway analysis.
20. Haggerty, Jiang, Galecki, & Sienko, 2012: CCT, USA, sway analysis & biofeedback.
21. Mak, Yeh, Boulet, Cluff, & Balasubramaniam, 2011: CCT, Canada, sway analysis.
22. Resch JE, May B, Tomporowski PD, Ferrara MS, 2011: CCT, USA, sensory organization test.
23. Doumas, Smolders, & Krampe, 2008: CCT, Belgium, sway analysis.
24. Ramenzoni VC, Riley MA, Shockley K, Chiu C-YP, 2007: CCT, USA, sway analysis.
25. Donker SF, Roerdink M, Greven AJ, Beek PJ, 2007: CCT, Netherlands, sway analysis.
26. Swan L, Otani H, Loubert PV, Gait Posture. 2007: CCT, USA, sway analysis.
27. Vuillerme N, Isableu B, Nougier V, 2006 : CCT, France, sway analysis.
28. Huxhold, Li, Schmiedek, & Lindenberger, 2006 : CCT, Germany, sway analysis.
29. Swan L, Otani H, Loubert PV, Sheffert SM, Dunbar GL, 2004: CCT, USA, sway analysis.
30. Pellecchia GL, 2003: CCT, USA, sway analysis.
31. Andersson G, Hagman J, Talianzadeh R, Svedberg A, Larsen HC, 2002: CCT, Sweden, sway analysis by torque variance.
32. Brauer S, Woollacott M, Shumway-Cook A, 2002: CCT, Australia, postural recover via sway analysis
33. Melzer I, Benjuya N, Kaplanski J, 2001: CCT, Israel, sway analysis.
34. Teasdale N, Simoneau M, 2001: CCT, USA, sway analysis.
35. Brauer SG, Woollacott M, Shumway-Cook A, 2001: CCT, USA, video motion analysis, sway analysis.
36. Dault MC, Geurts AC, Mulder TW, Duysens J, 2001: CCT, Canada, sway analysis.
37. Hunter MC, Hoffman MA, 2001: CCT, USA, sway analysis.
38. Shumway-Cook & Woollacott, 2000: CCT, USA, sway analysis.

39. Marsh & Geel, 2000: CCT, USA, sway analysis.

40. Brown, Shumway-Cook, & Woollacott, 1999: CCT, Canada, postural recovery via video motion analysis, sway analysis.

41. Shumway-Cook, Woollacott, Kerns, & Baldwin, 1997: CCT, USA, sway analysis.

42. Teasdale, Bard, LaRue, & Fleury, 1993: CCT, Canada, sway analysis.