

REFERENCES

Abolfazl, Hadadnezhad, & Sadeghi, (2025). The effect of corrective exercises with massage on balance, motor performance, gait, and quality of life in elderly males with hyperkyphosis: Randomized control trials, Geriatric Nursing, (<https://www.sciencedirect.com/science/article/pii/S0197457224004099>)

Agrawal Y, Carey JP, Hoffman HJ, Sklare DA, Schubert MC. The modified Romberg Balance Test: normative data in U.S. adults. *Otol Neurotol*. 2011 Oct;32(8):1309-11. doi: 10.1097/MAO.0b013e31822e5bee. PMID: 21892121; PMCID: PMC3190311.

Berg K. Measuring balance in the elderly: Validation of an instrument [Dissertation]. Montreal, Canada: McGill University, 1993.

Bao, T, Carender, WJ, and Kinnaird, C, (2018) Effects of long-term balance training with vibrotactile sensory augmentation among community-dwelling healthy older adults: a randomized preliminary study. *Journal of NeuroEngineering and Rehabilitation*, 15 (5) P. 1. <http://citations.springer.com/item?doi=10.1186/s12984-017-0339-6>

Blankevoort, CG, VanHeuvelen, MJG, and Scherder, EJA, Reliability of Six Physical Performance Tests in Older People with Dementia, *Phys Ther* 2013;93(1)69-78

Bohannon, RW, Reference Values For Extremity Muscle Strength Obtained By Hand Held Dynamometry From Adults In Each 20 To 79 Years. *Archives Of Physical Medicine And Rehabilitation* 1997; 78(1): 26-32.

Bohannon, RW, Larkin, PA, Cook, Ac, Gear, J, And Singer, J, Decrease In Timed Balance Test Scores With Aging. *Physical Therapy* 1984 64:7, 1067- 1070.

Cabanas-Valdes, R., Calvo-Sanz, J., Serra-Llobet, P., Alcoba-Kait, J. Gonzales-Rueda, V., & Rodriguez-Rubio, P.R. (2021, April). The Effectiveness of Massage Therapy for Improving Sequelae in Post-Stroke Survivors. A Systematic Review and Meta-Analysis. *Int. J. Environ. Res. Public Health* 2021, 18(9), 4424. <https://doi.org/10.3390/ijerph18094424>

Cadore, EL, et al. Effects Of Different Exercise Interventions On Risk Of Falls, Capability And Balance In Physically Frail Older Adults. A Systematic Review *Rejuvenation Research* , January 2013, from <http://online.liebertpub.com/doi/abs/10.1089/rej.2012.1397>. Accessed 2/24/13.

Canadian Partnership for Stroke Recovery. (2017). In Depth Review of the Assessment of Motor and Process Skills (AMPS). Retrieved December 07, 2017, from https://www.strokengine.ca/indepth/amps_indepth/

Clemson, L., et al. Integration Of Balance And Strength Training Into Daily Life Activity To Reduce Rate Of Falls In Older People (The LIFE Study): Randomized Parallel Trial. *British Medical Journal* 2012 August 7. From http://www.ncbi.nlm.nih.gov/PMC/articles/PMC_3413733. Accessed 2/24/13.

Dohrn M, Hagströmer M, Hellenius ML, Ståhle A. Short-and long-term effects of balance training on physical activity in older adults with osteoporosis: a randomized controlled trial. *Journal of geriatric physical therapy*. 2017 Apr 1;40(2):102-11.

Duncan, RP, Leddy, AL, Cavangough, JT, Dibble, LE, Ellis, TD, Ford, MP, Foreman, B, and Earhart, GM. Comparative Utility of the BESTest, Mini-BESTest, and Brief-BESTest for Predicting Falls in Individuals with Parkinson Disease; A cohort Study. *Phys Ther* 2013;93:542-550

Dite, w. and Temple, VA, A Clinical Test of Stepping and Change of Direction to Identify Multiple Falling Older Adults. *Arch Phys Med Rehabil* 83(11):1566-1571

Elrod Cathy S. , Wong Rita A. (2025) Evaluating the effectiveness of evidence-based falls prevention programs: a study on participant risk levels and program congruency. *Frontiers in Public Health*, Volume 13 – 2025

Falls Efficacy Scale. Accessed 12/7/17. <https://consultgeri.org/try-this/general-assessment/issue-29.pdf>. (2011).

Ferrara, M. C., Zambom-Ferraresi, F., Galbete, A., de la Riva, M. F. G., Izco-Cubero, M., García-Baztán, A., ... & Martínez-Velilla, N. (2025). Effect of a Multicomponent Exercise Program with Virtual Reality (MEP-VR) versus standard approaches on functional and cognitive domains in hospitalised geriatric patients: Study protocol for a randomized controlled trial. *Revista Española de Geriatria y Gerontología*, 60(4), 101646.

Fhebe, Moses and Kumaresan, Abathsagayam and Surya, Vishnuram and Prathap, Suganthirababu and Vignesh, Srinivasan and Ramana, Kameswaran and Vinodhkumar, Ramalingam and Pavithra, Aravind (2023) *Effectiveness of Combined Physical – Cognitive Training on Balance among Geriatric Population*. INTI JOURNAL, 2023 (26). pp. 1-6. ISSN e2600-7320 <https://intijournal.intimal.edu.my>

Ferreira, CB, dos Santos Teixeira, P, dos Santos, GA, et al., “Effects of a 12-Week Exercise Training Program on Physical Function in Institutionalized Frail Elderly,” *Journal of Aging Research*, vol. 2018, Article ID 7218102, 8 pages, 2018. <https://doi.org/10.1155/2018/7218102>.

Granacher, U, Lacroix, A. Muelbauer, T, Roettger, K, Gollhofer, A, Effects of Core Stability Strength Training on Trunk Muscle Strength, Spinal Mobility, Dynamic Balance, and Functional Mobility in Older Adults. *Gerontology*. 2013;59(2):105-13

Gillespie LD, et al. Interventions For Preventing Falls In Older People Living In The Community. *Cochrane Database Of Systematic Reviews* 2012; 12; 9: CD 007146, From: <http://www.ncbi.nlm.nih.gov/pubmed/22972103>. Accessed 2/24/13.

Godi, M, Franchignoni, MC, Caligari, M, Giordano, A, Turcato, AM, and Nardone, A. Comparison of Reliability, Validity, and Responsiveness of the Mini-BESTest and Berg Balance Scale inpatients with Balance Disorder. *Phys Ther*, 2013;93:158-167

Guccione, AA,. *Geriatric Physical Therapy*. St. Louis: Mosby. 2000.

Hamed, A., Bohm, F., Mersmann, A., and Arampatzis, A. (2018) Exercises of dynamic stability under unstable conditions increase muscle strength and balance ability in the elderly. *Scand J Medicine & Science in Sports.*, 28(3), <https://doi.org/10.1111/sms.13019>.

- Jasper, Amie PT, DPT, PhD¹; Karim, Rania PT, DPT²; Vitente, Arvie C. PT, DPT, PhD, MPH³; et.al., (2025) Concurrent Validity and Reliability of In-Person and Supervised Remote STEADI Fall Risk Assessment in Community-Dwelling Older Adults. *Journal of Geriatric Physical Therapy* ():10.1519/JPT.0000000000000446.
- Jiang, G., Tan, X., Zou, J., & Wu, X. (2025). A 24-Week Combined Resistance and Balance Training Program Improves Physical Function in Older Adults: A Randomized Controlled Trial. *The Journal of Strength & Conditioning Research*, 39(1), e62-e69.
- Johari, Sahar BSc, MSc¹; MacDermid, Joy BSc, PhD^{1,2}; Parikh, Pulak PT, DPT, PhD¹; Grewal, Ruby MD, FRCSC³.(2025) A Scoping Review of Interventions Aimed at Reducing Fear of Falling in Older Adults With Orthopedic Conditions. *Journal of Geriatric Physical Therapy* 48(1):p 42-51. | DOI: 10.1519/JPT.0000000000000426
- Johnson, T.M., II, Vincenzo, J.L., De Lima, B., Casey, C.M., Gray, S., McMahon, S.K., Phelan, E.A. and Eckstrom, E. (2025), Updating STEADI for Primary Care: Recommendations From the American Geriatrics Society Workgroup. *J Am Geriatr Soc.*
<https://doi.org/10.1111/jgs.19378>
- Jorge Salse-Batán, Daniel González-Devesa, Iratxe Duñabeitia, et. al., (2025) Effects of stretching exercise on walking performance and balance in older adults: A systematic review and meta-analysis, *Geriatric Nursing*, Volume 61. Pages 479-490, ISSN 0197-4572,

Kendall, J.C., Vindigni, D., Polus, B.I., Azari, M.F., & Harman, S.C. (2020). Effects of manual therapies on stability in people with musculoskeletal pain: a systematic review. *Chiropr Man Therap* 28, 13. <https://doi.org/10.1186/s12998-020-0300-9>
Kennedy, C. A., & Beaton, D. E. (2017). A user's survey of the clinical application and content validity of the DASH (Disabilities of the Arm, Shoulder and Hand) outcome measure. *Journal of Hand Therapy*, 30(1), 30-40.

Keogh JW, Henwood T, Gardiner P, Tuckett A, Hodgkinson B, Rouse K. Examining evidence based resistance plus balance training in community-dwelling older adults with complex health care needs: Trial protocol for the Muscling Up Against Disability project. *Archives of gerontology and geriatrics*. 2017 Feb 28;68:97-105.

Kocic, M, Stojanovic, Z, et al, (2018)The effectiveness of group Otago exercise program on physical function in nursing home residents older than 65 years: A randomized controlled trial. *Archives of Gerontology and Geriatrics*. 75, March–April 2018, Pages 112-118. <https://www.sciencedirect.com/science/article/pii/S0167494317303394>

Kopecek, M., Bezdicek, O., Sulc, Z., Lukavsky, J., and Stepankova, H. (2017) Montreal Cognitive Assessment and Mini-Mental State Examination reliable change indices in healthy older adults. *Int J Geriatr Psychiatry*, 32: 868–875. doi: 10.1002/gps.4539.

Lam, FMH, Huang, M, et al, (2018) Physical exercise improves strength, balance, mobility, and endurance in people with cognitive impairment and dementia: a systematic review. *Journal of Physiotherapy* , 64 (1), 4 – 15.

Lewis, C, Shaw, K, (2017, September 05). The (Original) Barthel Index of ADLs. Retrieved December 07, 2017, from <http://rehab-insider.advanceweb.com/the-original-barthel-index-of-adls/>

Lewis, Carol B., *Improving Mobility in Older Persons, A Manual for Geriatric Specialists*. Baltimore, Great Seminars and Books. 2001.

Lewis, Carol B., *The Functional Toolbox II*. Bethesda, Great Seminars and Books. 2000

Leipzig, RM, et al. Drugs and Falls in Older People: A Systematic Review and Meta-analysis: I. Psychotropic Drugs. *J Am Geriatr Soc* 1999;47:30-39.

Lin, M, et al. Psychometric Comparisons Of The Time Up And Go, One- Leg Stand, Functional Reach, and Tinetti Balance Measures In Community Dwelling Older People. *Journal Of The American Geriatrics Society* 2004; 52(8): 1343-1348.

Lohrasbipeydeh, E. et al, (2021). Balance Comparison between Iranian Elderly with and without Knee Range of Motion Limitations. *Pertanika J. Soc. Sci. & Hum.* 29 (S1): 375 – 393. DOI: <https://doi.org/10.47836/pjssh.29.S1.20>McMahon, S, And Fleury, J, External Validity Of Physical Activity Interventions For Community Dwelling Older Adults With Fall Risk: A Quantitative Systematic Literature Review. *Journal Of Advanced Nursing* 2012;68(10):2140- 2154.

Marchetti, GF, et al, Temporal and Spatial Characteristics of Gait During Performance of the Dynamic Gait Index in People With and People Without Balance or Vestibular Disorders. *Physical Therapy* 2008; 88(5):640-651.

McMahon, S, And Fleury, J, External Validity Of Physical Activity Interventions For Community Dwelling Older Adults With Fall Risk: A Quantitative Systematic Literature Review. *Journal Of Advanced Nursing* 2012;68(10):2140- 2154.

Mecagni, C, Pulliam Smith, J, Roberts, KE, And O'Sullivan, SB, Balance And Ankle Range Of Motion In Community Dwelling Women Aged 64 To 87 Years: A Correlational Study. *Physical Therapy* 2000 810 :1004-1011.

Mohamed, Shameer and Kumaresan, Abathsagayam and Surya, Vishnuram and Prathap, Suganthirababu and Vignesh, Srinivasan and Vinodhkumar, Ramalingam and Privadharshini, Kumar (2023) *Effects of Visual Feedback on Balance and Risk of Fall among Geriatric Population*. INTI JOURNAL, 2023 (28). pp. 1-6. ISSN e2600-7320 <https://intijournal.intimal.edu.my>

Motalebi, S.A., Zajkani, Z., Mohammadi, F., Mafi, M., & Ranjkesh, F. (2020). Effect of Acupressure on Dynamic Balance in Elderly Women: A Randomized Controlled Trial. *Experimental Aging Research*, 46(5), 433-445. DOI:

10.1080/0361073X.2020.1802981adgett, PK, Jacobs, JV, and Kasser, SL, Is the BESTest at its Best? A suggested Brief Version Based on Interrater Reliability, Validity, Internal Consistency, and Theoretical Construct, *Phys Ther*. 2012; 92:1197-1207

Ooi TC, Singh DKA, Shahar S, Rajab NF, Vanoh D, Sharif R, et al. Incidence and multidimensional predictors of occasional and recurrent falls among Malaysian community-dwelling older persons. *BMC Geriatr*. 2021;21:154.

Piva, AR, GIL, AB, Almeida, JM, Digioia, AM, Levison, TJ, and Fitzgerald, GK, A Balance Exercise Program Appears to Improve Function in Patients with Total Knee Arthroplasty: A randomized Clinical Trial. *Phys Ther* 2010;90:880-894

Pengpid S, Peltzer K. Prevalence and risk factors associated with injurious falls among community-dwelling older adults in Indonesia. *Curr Gerontol. Geriatr Res*. 2018;2018:5964305

Ramadani, Linda and Kurniawati, Dwi and Basuki, Nur. (June 2023). *Differences in the Influence of Core Stability and Balance Training, Training on The Risk of Falling in the Elderly*. Poltekkes, Ministry of Health, Surakarta, Indonesia Vol.1No.2 DOI: <https://doi.org/10.59686/jtwb.v1i2.62>

Sadat Seyed Esfahani, S., Khodadoost, M., Omidian, M., Panahi, S.S., Riahi, S.M. (2021). A Review of the Role of Manual Therapy in the Treatment of Patients with Knee Osteoarthritis. *Annals of the Romanian Society for Cell Biology*, 8301–8316.

Schepens, S, Sen, A, et al. Relationship Between Fall-Related Efficacy And Activity Engagement In Community-Dwelling Older Adults: A Meta-Analytic Review. *American Journal Of Occupational Therapy* 2012 66:2 137-148.

Siem A Dingemans, Suzanne C Kleipool, Marjolein A M Mulders, Jasper

Shourabi, P., Begheri, R. Ashtary-Larky, S., Wong, A. Motevalli, M.S., Hedayati, A., . . . & Rashidlamir, A. (2020, May). Effects of hydrotherapy with massage on serum nerve growth factor concentrations and balance in middle aged diabetic neuropathy patients. *Complementary Therapies in Clinical Practice*, 39, 101141. <https://doi.org/10.1016/j.ctcp.2020.101141>

Simonson, W. (1984). *Medications and the Elderly: a guide for Promoting Proper Use*. Rockville, MD: Aspen.

Simpson, JA, and Dharmage, SC, Effectiveness of a Targeted Exercise Intervention in Reversing Older People's Mild Balance Dysfunction: A Randomized Controlled Trial. *Phys Ther* 2012;92:1:24-37

Special Series: Clinical practice: Guideline for the Prevention of Falls in Older Persons, American Geriatrics Society (AGS) Panel on Falls in Older Persons, From: <http://www.betterbalancefallprevention.com/images/researcharticl...> Accessed 2/24/13.

Steffen, TM, et al. Age- And Gender-Related Test Performance In Community Dwelling Elderly People: Six Minute Walk Test, Work Balance Scale, Timed Up And Go Test, And Gait Speeds. *Physical Therapy* 2002; 82:128-137.

Steinmetz C, Stenzel C, Sylvester M, et, al., (2025) Use of a Technology-Based Fall Prevention Program With Visual Feedback in the Setting of Early Geriatric Rehabilitation: Controlled and Nonrandomized Study. *JMIR Form Res*;9:e66692. <https://formative.jmir.org/2025/1/e66692> DOI: 10.2196/66692

Stuby, J., Leist, P., Hauri, N. et al. (2025) Intervention to systematize fall risk assessment and prevention in older hospitalized adults: a mixed methods study. *BMC Geriatr* 25, 45. <https://doi.org/10.1186/s12877-025-05703-4>

Tartari, A., Moreira, F., Pereira, M. C., Kerppers, I., Cidral-Filho, F., & Salgado, A. (2020). Effect of neuromuscular balance on static balance in adult and elderly populations. *Manual Therapy, Posturology & Rehabilitation Journal*, 18, 1-6. <https://doi.org/10.17784/mtprehabjournal.2020.18.799>

Tinetti, ME, Performance Oriented Assessment Of Mobility Problems In Elderly Patients. *JAGS* 1986; 34(2):119-12.

Tinetti, ME, Preventing Falls in Elderly Persons. *N Engl J Med* 2003; 348:42-49

Toftthagen, C, Visovsky, C, And Berry, DL, Strength And Balance Training For Adults With Peripheral Neuropathy And A High Risk Of Fall: Current Evidence And Implications For Future Research. *Oncology Nursing Forum* .2012; 39(5): E416-E424.

Trampisch, U.S., Petrovic, A., Daubert, D. *et al.* (2023) Fall prevention by reactive balance training on a perturbation treadmill: is it feasible for prefrail and frail geriatric patients? A pilot study. *Eur Geriatr Med*. <https://doi.org/10.1007/s41999-023-00807-9>

Tseng, CSL, Liao, LR, Chung, RCK, and Pang, MYC, Psychometric Properties of the Mini-Balance Evaluation Systems Test (Mini-BESTest) in Community Dwelling Individual with Chronic Stroke. Phys Ther. 2013;93:1102-1115

Vialle, R, Levassor, N, Rillardon, L, Templier, A, Skalli, W, and guigui, P, Radiographic Analysis of the Safgittal Alignment and Balance of the Spine in Asymptomatic Subjects J bone Joint Surg am. 2005;87(2):260-267.

Valiv, A., Thaver, S., & Irani, A. (2025). Role of EMG Biofeedback on Ankle to Improve Balance in Young Old Geriatric Population-A Randomised Control Trial. Indian Journal of Physiotherapy & Occupational Therapy, 19(1).

Vereeck, L, Wuyts, F, et al, Clinical Assessment of Balance Normative Data and Gender and Age Effects. Int. J. Audiol 47(2):67-75.

Voltmer, C, Botros M, et, al., (2025) Home Health Physical Therapists' Perceptions Regarding the Utilization of the CDC STEADI Initiative. Journal of Allied Health, Volume 54, Number 1, pp. 87E-95E(9). Association of Schools Advancing Health Professions.

<https://www.ingentaconnect.com/contentone/asahp/jah/2025/00000054/0000000001/art00011>

Winkelhagen, Niels W L Schep, J Carel Goslings & Tim Schepers (2017) Normative data for the lower extremity functional scale (LEFS), Acta Orthopaedica, 88:4, 422-426, DOI:10.1080/17453674.2017.1309886
Wolfson, L, et al, Gait Assessment in the Elderly: A Gait Abnormality Rating Scale and its Relation to Falls. Jnl. Gerontology 1990; 45(1): M12-19.

Yang, XJ, Hill, et al. Effect It Is A Targeted Exercise Intervention In Reversing Older People's Mild Balance Dysfunction: A Randomized Clinical Trial. Physical Therapy 2012; 92:24-37.

Yao, L. Giordani, BJ, Algase, DL, You, M, and Alexander, NB, Fall Risk-Relevant Functional Mobility Outcomes in Dementia following Dyadic Tai Chi Exercise, West J Nurs Res April 19, 2012, in <http://wjn.sagepub.com/content/early/2012/04/18/019394591244331>. Accessed 2/23/13.

Yuanyuan Ren, Chenli Lin, Qin Zhou, Zhang Yingyuan, Guodong Wang, Aming Lu. (2023) *Effectiveness of virtual reality games in improving physical function, balance and reducing falls in balance-impaired older adults: A systematic review and meta-analysis*, Archives of Gerontology and Geriatrics, Volume 108, <https://doi.org/10.1016/j.archger.2023.104924> (<https://www.sciencedirect.com/science/article/pii/S0167494323000043>)

Zhou, J., Liu, B., Xu, J. fang, Wang, F. bai hui, Ye, H., Duan, J. P., & Cui, X. wen. (2025). Home-based strength and balance exercises for fall prevention among older individuals of advanced age: a randomized controlled single-blind study. Annals of Medicine, 57(1). <https://doi.org/10.1080/07853890.2025.2459818>

Access exam downloads and psychometrics at:

<https://www.sralab.org/rehabilitation-measures/database?population=4635>

From: <http://www.cdc.gov/homeandrecreationalafety/falls/adultfalls.html>.
Accessed 2/25/12.

From: <http://www.betterbalancefallprevention.com/images/ResearchArticle>. Accessed 2/21/13.

From: <http://www.cdc.gov/HomeandRecreationalSafety/Falls/nursing.html>.
Accessed 2/25/12.

Medicare Falls Risk Assessment, From:
https://qpp.cms.gov/docs/QPP_quality_measure_specifications/CQM-Measures/2020_Measure_154_MIPSCQM.pdf

ACCESS THE BALANCE EXAMS AT
[WWW.SRALAB.ORG!](http://WWW.SRALAB.ORG)

- ▶ <https://www.sralab.org/rehabilitation-measures/dynamic-gait-index>
- ▶ <file:///H:/EDUCISE%202018/GERIATRIC%20SEMNARS/FABScaleScoringFormwithCut-OffValues.pdf>
- ▶ <file:///H:/EDUCISE%202018/GERIATRIC%20SEMNARS/multidirectionalreachtest.pdf>
- ▶ https://blogs.manchester.ac.uk/fes-i/wp-content/uploads/sites/11/2018/03/FES-I_English.pdf
- ▶ <https://www.sralab.org/rehabilitation-measures/barthel-index>
- ▶ <https://www.cdc.gov/steady/pdf/STEADI-PocketGuide-508.pdf>
- ▶ https://www.cdc.gov/steady/pdf/steady_tool_kit_materials_handout-a.pdf
- ▶ <https://www.cdc.gov/steady/pdf/STEADI-Form-RiskFactorsCk-508.pdf>
- ▶ <https://www.cdc.gov/steady/pdf/STEADI-FactSheet-SAFEMedReview-508.pdf>
- ▶ <https://www.cdc.gov/steady/pdf/STEADI-FactSheet-MedsLinkedtoFalls-508.pdf>
- ▶ <https://www.cdc.gov/steady/pdf/STEADI-FactSheet-RiskFactors-508.pdf>