

Curriculum Vitae

MARJORIE HINES WOOLLACOTT

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Academic Background

B. A. University of Southern California, 1968
Ph.D. University of Southern California, 1973, Cell and Molecular Biology/Neuroscience
M.A. University of Oregon, Asian Studies, 2005

RESEARCH SUMMARY

Marjorie Woollacott, Ph.D., has been the director of the Motor Performance and Cognition Lab at the University of Oregon in the Department of Human Physiology, and a member of the Institute of Neuroscience, for the past 35 years. Her areas of expertise include: 1) changes in attentional performance skills and underlying neural networks associated with the mental training of meditation and tai chi; 2) the development of balance and attentional abilities in normal children and in children with motor problems such as cerebral palsy and Down Syndrome; 3) factors leading to loss of balance function in the older adult, and in patients with motor disorders such as stroke and Parkinson's disease, in order to improve the quality of life and independence of adults well into old age; 4) the design of new assessment and treatment strategies to improve balance and attentional abilities. These include testing the efficacy of alternative forms of therapy such as tai chi and meditation for improving both attention and balance and gait abilities in patient populations; and 5) the development of musical performance skills in musicians.

She is the co-author, with Dr. Anne Shumway-Cook of the textbook for health care professionals, titled: *Motor Control: Translating Research into Clinical Practice*, which is in its 4th edition. She has also authored the book: *Infinite Awareness: The Awakening of a Scientific Mind*, exploring scientific studies which offer evidence that consciousness functions beyond the mind. Her research has been funded by the National Institutes of Health and the National Science Foundation for the past 31 years and she has published over 180 peer reviewed research articles in the area of motor control and rehabilitation. She has been the keynote speaker at conferences in the North and South America, Europe, Australia and Asia and performed research at the Max Planck Institute in Berlin, the CNRS in France and Umea University in Sweden. She graduated magna cum laude from the University of Southern California and is a member of Phi Beta Kappa. She received the Senior Scientist in Motor Development award from NASPSPA and was President of the International Society for Posture and Gait Research.

In addition she has studied Alternative Medicine modalities, including meditation, hatha yoga and Reiki, as well as teaching Alternative and Complementary Medicine courses at the University of Oregon.

TEACHING/PROFESSIONAL EXPERIENCE

Professor, Department of Human Physiology, University of Oregon, 1989-present
Acting Department Head, Dept. East Asian Languages and Literature, U of O, 2003-2006
Department Head, Department of Human Physiology, U of Oregon, 1996-2002
Associate Professor, Department of Exercise and Movement Science, University of Oregon, 1980-

1989

Member, Institute of Neuroscience, University of Oregon, 1980-present

Participating faculty, Center for Gerontology, University of Oregon, 1981-1992

Senior Research Associate, Neurological Sciences Institute, 1977-1980

Adjunct Assistant Professor of Biology, Reed College, 1978-80

Adjunct Assistant Professor of Neurology, University of Oregon School of Medicine, 1978-80

Asst. Professor of Biology, Virginia Polytechnic Institute and State University, 1976-77

Research Associate, University of Oregon, 1973-76

ACADEMIC HONORS

Elected to Phi Beta Kappa, 1968

Graduated Magna Cum Laude, University of Southern California, 1968

Honors Extraordinary in Organic Chemistry, Pasadena City College, 1968

National Institutes of Health Summer Traineeship, Neurophysiology, University of Southern California, 1968

National Institutes of Health Biomedical Sciences support Grant Award, Neurophysiology, University of Southern California, 1970-72

Arthur Vining Davis Fellowship for Research in Neurophysiology at Santa Catalina Marine Laboratory, 1971

National Institutes of Health Postdoctoral Fellowship, Neurophysiology, University of Oregon, 1973-74

Alfred P. Sloan Postdoctoral Research Associate, Neurophysiology, University of Oregon, 1975-76

Nominee for the Recognition Award for Young Scholars, by American Association of University Women, University of Oregon 1981

Fellow, AAHPERD Research Consortium, 1987- present.

Esther Larson McGinnis Scholar for 2003, Illinois State University (A prominent woman scholar is selected and invited to the campus each year to share her expertise with students and faculty and given a \$1000 award) Talk Title: Preventing Falls in the Older Adult: Effect of Tai Chi Training.

Senior Scholar in Motor Development Award from NASPSA (North American Society for Sport and Physical Activity). Given a monetary award and made keynote speaker for the national meeting in St. Petersburg, Florida, June 2005. Talk title: Development of balance control in typically developing children and children with spastic diplegia: laboratory tests of methods to improve balance.

Selected as Senior Scientist: Mind-Life Summer Research Institute, Garrison, NY, June 2006; June 2007, 2009. Theme: Examining the potential role of contemplative methods for characterizing human experience and consciousness from a neuroscience and clinical intervention perspective.

Distinguished Lecturer Award 2009, Physical Therapy Program, Department of Health Professions, University of Wisconsin, La Crosse. Title: New Therapies for Improving Balance in Older Adults: Evidence Based Practice

Invited Senior Scientist, Max Planck Institute for Human Development, Berlin Germany. April-May, 2009.

Keynote Speaker. Australasian Cerebral Palsy and Developmental Medicine Meeting. Christchurch, New Zealand. International, March, 2010.

Pediatric Physical Therapy journal's Toby Long Award. 2010 for article "Refinement, Reliability, and validity of the Segmental Assessment of Trunk Control." The award is given annually for the best manuscript published in *Pediatric Physical Therapy*.

Invited Keynote speaker: Manila Philippines, November, 2012 Balance and Disability in Chronic Diseases. 8th Pan Pacific Conference on Rehabilitation.

OTHER PROFESSIONAL ACTIVITIES

Vice-president, International Society for Posture and Gait Research, 1990-92
President, International Society for Posture and Gait Research, 1992-1994
Editorial Board, Journal of Aging and Physical Activity, 1992-present
Editorial Board, Gait and Posture, 1992-1998
Editorial Board, Journal of Motor Behavior, 1984-present
Member, NIH Study Section, Geriatrics and Rehabilitation, 1995-2000
Co-organizer, International Society for Posture and Gait Research Meetings, 1992, Portland, OR.

GRANTS AND CONTRACTS

- 2011-2016: Spinal Segmental Contributions to Sitting and Reaching in Cerebral Palsy. National Institutes of Health; total award: \$1,000,000. M. Woollacott, PI.
- 2008-2011. NHMRC Grant, Australia. Training Dual Task Performance during Gait in Parkinson's Disease. S. Brauer, PI, M. Woollacott, Co-investigator. \$336,000.
- 2007-2010 Mind-Life Institute Varela Award: A Randomized Controlled Single-Blinded Pilot Trial to Compare Effects of Concentrative Sitting Meditation to Moving Meditation (Tai Chi) Training on Attentional Network Efficiency (\$15,000). (To: T. Hawkes and M. Woollacott).
- 1985-2002; 2005-2010 Age-related changes in posture and movement (M. Woollacott, PI); National Institutes of Health, National Institute on Aging; total award \$562,108 for 1991-1995. Total award \$915,293 for 1995-2001. Renewal for 2005-2009: \$1,948,032.
- 1999-2009 National Institutes of Health (M. Woollacott, PI). Title: Constraints on dynamic balance control in children with cerebral palsy. Total award: \$551,072 for 1999-2002; \$1,225,000 for 2003-2009.
- 2004-2006 Grammy Award Application: The Development of Pitch Performance in Cellists (M Woollacott, PI), \$45,000, 2 years.
- 2001-2002 Northwest Health Foundation (M Woollacott, PI). Title: High Intensity Strength Training to Enhance Balance in Frail Older Adults. Total Award: \$1825.
- 2000-2001 Northwest Health Foundation (M. Woollacott, PI). Title: A Systems-based Forced-use Approach to Retraining Balance after Stroke. Total Award: \$44,231.
- 1996-2001 National Science Foundation Collaborative grant with the CNRS of Marseille, France. Woollacott, PI) Title: Is the refinement of the neural control of balance critical to the emergence of mature locomotion? Total award: \$21,900
- 1991-1999 National Science Foundation Grant. Title: Critical Transitions in Posture and Locomotor Development in Children. M. Woollacott, PI. Initial award: \$239,000. Continuing award: \$180,000, for 1996-1999.
- 1995-1997 Foundation for Physical Therapy Grant. (M. Woollacott, Co-investigator). Title: The Clinical Implications of Attentional Demands and Postural Control in Older Adults. Total award: \$45,309

- 1993-1998 Systems Physiology Training Program. National Institutes of Health. J. Weeks, PI. (Members of Institute of Neuroscience, including Woollacott, Advisors) \$1,182,280.
- 1992-1993 International Symposium of Posture and Gait: Control Mechanisms; National Institutes of Health, National Institute on Aging. M. Woollacott, PI. Total Award: \$36,350.
- 1983 The functional reorganization of motor structures before movement; new reflex approaches in man (J. Requin, PI; M. Woollacott, investigator); CNRS; total award 150,000 French francs.
- 1978-80 Studies on Control of Human Posture (L. Nashner, PI, M. Woollacott, co-investigator); NIH; total award \$178,179.

PUBLICATIONS

Masters thesis, Asian Studies, Title: Unbounded potentialities of resonance –the dynamic interface between mind and brain: perspectives from neuroscience and meditative traditions, and research at their common frontiers. U. of Oregon, 2005.

Books:

M. Woollacott. *Infinite Awareness: The Awakening of a Scientific Mind*. Lanham: Rowman and Littlefield, 2015.

A. Shumway-Cook & **M. Woollacott.** *Motor Control: Translating Research into Clinical Practice*. Baltimore: Lippincott/Williams and Wilkins. (also translated into Greek, Portuguese, Japanese, Korean, Chinese and other languages) 4th Edition, 2011 (5th Edition is in press)

A Bronstein, T Brandt, **M Woollacott**, eds. *Clinical Aspects of Balance and Gait Disorders*. London: Edward Arnold, 1996. (**Second Edition, 2004**)

M. Woollacott and F. Horak, eds. *Posture and Gait: Control Mechanisms, Vol I & II*. Univ of Oregon Books. 1992.

M. Woollacott and A. Shumway-Cook, eds. *The Development of Posture and Gait Across the Lifespan*. Columbia S.C.: Univ. of S. Carolina Press. 1989. (Translated into Japanese by K Yabe, and published in Japan. Tokyo: Taishukan Publishing, 1993.)

M.H. Woollacott. Issue Editor. Science and Meditation. *Darshan* (Journal on Meditation). Vol 77, 1993.

Refereed Articles:

138. Curtis DJ, Hansen L, Luun M, Løberg R, **Woollacott M**, Saavedra S, Sonne-Holm S, Berggreen S, Bencke J. [Measuring Postural Sway in Sitting: A New Segmental Approach](#). J Mot Behav. 2015 Mar 2:1-9. [Epub ahead of print]

137. [Rachwani J](#), [Santamaria V](#), [Saavedra SL](#), **Woollacott MH**. The development of trunk control and its

relation to reaching in infancy: a longitudinal study. *Front Hum Neurosci.* 2015 Feb 24;9:94.

136. Saavedra SL, **Woollacott MH** Segmental contributions to trunk control in children with moderate-to-severe cerebral palsy. *Arch Phys Med Rehabil.* 2015 Feb 2. pii: S0003-9993(15)00092-1. doi: 10.1016/j.apmr.2015.01.016. [Epub ahead of print]

135. Little CE, **Woollacott M.** EEG Measures Reveal Dual-Task Interference in Postural Performance in Young Adults. In press. *Experimental Brain Research.* 2014.

134. Curtis DJ, Butler P, Saavedra S, Bencke J, Kallemose T, Sonne-Holm S, **Woollacott M.** The central role of trunk control in the gross motor function of children with cerebral palsy– a retrospective cross-sectional study. *Dev Med Child Neurol.* 2014 Nov 20. doi: 10.1111/dmcn.12641. [Epub ahead of print].

133. Hawkes TD, Manselle W, **Woollacott MH.** Tai Chi and meditation-plus-exercise benefit neural substrates of executive function. A cross-sectional, controlled study. *Journal of Complementary and Integrative Medicine;* 11(4):279-88. 2014.

132. Schaefer S, Schellenbach M, Lindenberger U, **Woollacott M.** Walking in High-Risk Settings: Do Older Adults Still Prioritize Gait when Distracted By a Cognitive Task? *Experimental Brain Research,* DOI 10.1007/s00221-014-4093-8, 2014.

131. Hawkes TD, Manselle W, **Woollacott MH.** Cross-sectional comparison of executive attention function in normally aging long-term T'ai chi, meditation, and aerobic fitness practitioners versus sedentary adults. *J Altern Complement Med.* 2014 Mar;20(3):178-84.

130. Verrel J, **Woollacott MH,** Lindenberger U. Articulated coordination of the right arm underlies control of bow parameters and quick bow reversals in skilled cello bowing. *Front Psychol.* 2014 Aug 19;5:885. doi: 10.3389/fpsyg.2014.00885. eCollection 2014.

129. Little C, **Woollacott M.** Effect of Attentional Interference on Balance Recovery in Older Adults. *Exp Brain Res.* 2014 Jul;232(7):2049-60. doi: 10.1007/s00221-014-3894-0. Epub 2014 Mar 18. PMID: 24639065.

128. Chen J, **Woollacott M,** Pologe S, Moore GP. Stochastic aspects of motor behavior and their dependence on auditory feedback in experienced cellists. *Front Hum Neurosci.* 2013 Jul 31;7:419.

127. Pavão SL, dos Santos AN, **Woollacott MH,** Rocha NA. Assessment of postural control in children with cerebral palsy: a review. *Res Dev Disabil.* 2013 May;34(5):1367-75.

126. Cunha AB, **Woollacott M,** Tudella E. Influence of specific training on spatio-temporal parameters at the onset of goal-directed reaching in infants. *Braz J Phys Ther.* 2013 Jul-Aug;17(4):409-17.

125. Fujimoto M, Hsu W-L, **Woollacott MH,** Chou L-S. Ankle dorsiflexor strength relates to the ability to restore balance during a backward support surface translation. *Gait & Posture* 2013; 38: 812-817.

124. Rachwani, J, Santamaria, V, Saavedra S, Woods S, Porter F, **Woollacott M.** Segmental Trunk Control Acquisition and Reaching in Typical Developing Infants. *Exp Brain Res.* 2013 Jul;228(1):131-9.

123. Verrel J, Pologe S, Manselle W, Lindenberger L, **Woollacott M.** Exploiting biomechanical degrees of freedom for fast and accurate changes in movement direction: coordination underlying quick bow

reversals during continuous cello bowing. *Front Hum Neurosci.* 2013. Apr 26;7:157.

122. Verrel J, Pologe S, Manselle W, Lindenberger U, **Woollacott M.** Coordination of degrees of freedom and stabilization of task variables in a complex motor skill: expertise-related differences in cello bowing. *Exp Brain Res.* 2013 Feb;224(3):323-34..

121. Hsu, W-L, Chou L-S, **Woollacott, MH.** Age-related changes in joint coordination during balance recovery. *Age (Dordr).* 2013 Aug;35(4):1299-309.

120. Saavedra SL, Van Donkelaar P, **Woollacott MH.** Learning about gravity: Segmental assessment of upright control as infants develop independent sitting. *J Neurophysiol.* 2012 Oct;108(8):2215-29.

119. Boonyong, S, van Donkelaar P, L.S. Chou LS, **Woollacott M.** Development of postural control during gait in typically developing children: the effects of dual task conditions. *Gait Posture.* 2012; 35: 428-434. (2011 Nov 29. Epub ahead of print). PMID: 22133755 [PubMed - as supplied by publisher].

118. Hawkes, T, Siu, K-C, Silsupadol P, **Woollacott M.** Why do older adults fall when walking and performing a secondary task? Examination of attentional switching abilities. *Gait Posture.* 2012 Jan;35(1):159-63. Epub 2011 Oct 2. PMID: 21964051

117. Lamont R, Morris ME, **Woollacott MH,** Brauer SG. Community walking in people with Parkinson's Disease. *Parkinsons Dis.* 2012;2012:856237. Epub 2011 Nov 29. PMID: 22191078

116. Brauer SG, **Woollacott MH,** Lamont R, Clewett S, O'Sullivan J, Silburn P, Mellick GD, Morris ME. Single and dual task gait training in people with Parkinson's Disease: A protocol for a randomised controlled trial. *BMC Neurol.* 2011 Jul 27;11:90.PMID: 21791117 [PubMed - indexed for MEDLINE]

115. Keller T, **Woollacott MH.** Neuromuscular responses to platform perturbations in endurance versus power trained athletes. *Perceptual and Motor Skills,* 2011;112:3-20.

114. Butler PB, Saavedra S, Sofranac M, Jarvis SE, **Woollacott MH.** Refinement, reliability, and validity of the segmental assessment of trunk control. *Pediatr Phys Ther.* 2010; 22:246-57.

113. Saavedra S, **Woollacott M,** van Donkelaar P. Head stability during quiet sitting in children with cerebral palsy: effect of vision and trunk support. *Exp Brain Res.* 2010; 201:13-23 [Epub ahead of print]. PMID: PMC2821460

112. Silsupadol P, Shumway-Cook A, Lugade V, van Donkelaar P, Chou L-S, Mayr U, **Woollacott M.** Training-related Changes in Dual-task Walking Performance of Elderly Persons with Balance Impairment: A Double-blind, Randomized Controlled Trial. *Gait Posture.* 2009 Jun;29(4):634-9. Epub 2009 Feb 7. PMID: PMC2707497

111. Silsupadol P, Shumway-Cook A, Lugade V, van Donkelaar P, Chou L-S, Mayr U, **Woollacott M.** Effects of Single- vs. Dual-task training on Balance Performance in Older Adults: A Double-blind, Randomized Controlled Trial. *Arch Phys Med Rehabil.* 2009 Mar;90(3):381-7. PMID: PMC2768031

110. Siu KC, Chou LS, Mayr U, van Donkelaar P, **Woollacott MH**. Attentional mechanisms contributing to balance constraints during gait: the effects of balance impairments. *Brain Res*. 2009 Jan 12;1248:59-67. Epub 2008 Nov 12.
109. Saavedra S, Joshi A, **Woollacott MH**, van Donkelaar P, Eye Hand Coordination in Children with Cerebral Palsy. *Experimental Brain Research*, 2009; 92(2):155-65.
108. Siu KC, Chou LS, Mayr U, Donkelaar P, **Woollacott MH**. Does Inability to Allocate Attention Contribute to Balance Constraints during Gait in Older Adults? *J Gerontol A Biol Sci Med Sci*. 2008 Dec;63(12):1364-9.
107. Siu KC, Lugade V, Chou LS, van Donkelaar P, **Woollacott MH**. Dual-task interference during obstacle clearance in healthy and balance-impaired older adults. *Aging Clinical and Experimental Research*. 2008; 20:349-54. PMID: PMC2720996
106. Reilly D, **Woollacott MH**, van Donkelaar P, Saavedra S. Dual task effects on postural control in children with cerebral palsy: static stance. *Archives of Physical Medicine and Rehabilitation* 2008; 89: 834-842. PMID: 18452729.
105. Chen J, **Woollacott MH**, Pologe S Moore G. Pitch and space maps of skilled cellists: accuracy, variability and error correction. *Experimental Brain Research* 2008; 188: 493-503.
104. Brauer S, Neros C, **Woollacott MH**. Balance Control in the Elderly: Do Masters Athletes Show More efficient Balance Responses than Healthy Older Adults? *Aging Clinical and Experimental Research*, 2008; 20:406-411.
103. **Woollacott MH**, Vander Velde T. Non-visual spatial tasks reveal increased interactions with stance postural control. *Brain Research*. 2008; 1208: 95-102.
102. Reilly D, van Donkelaar P, Saavedra S, **Woollacott MH**. The effects of dual task conditions: the interaction between the development of postural control and executive attention. *Journal of Motor Behavior*, 2008; 40: 90-102.
101. Siu KC, Catena R, Chou LS, van Donkelaar P, **Woollacott MH**. Effects of Secondary Task on Obstacle Avoidance in Healthy Young Adults. *Experimental Brain Research* 2008; 184:115-20. Epub 2007 Aug 24. PMID: PMC2556305
100. Chan D, **Woollacott M.H**. Effects of level of meditation experience on attentional focus: is the efficiency of executive or orientation networks improved? *J. Alternative and Complementary Medicine* 2007; 13:651-657.
99. Van Donkelaar P, Saavedra S, **Woollacott M**. Multiple saccades are more automatic than single saccades. *J Neurophysiology* 2007; 97:3148-3151. PMID: 17287433.
98. Saavedra S, **Woollacott M**, van Donkelaar P. Effects of postural support on eye-hand interactions across development, *Experimental Brain Research*, 2007; 180: 557-67. PMID: PMC2744857.
97. Burtner PA, **Woollacott MH**, Craft MS, Roncesvalles MN. The capacity to adapt to changing balance threats: a comparison of children with cerebral palsy and typically developing children 2007; *Dev Neurorehabil* 10:249-60. PMID: 17564865

96. Chen J, **Woollacott MH**, Lower extremity kinetics for balance control in children with cerebral palsy. *J Motor Behavior*, 2007; 39: 306-316.
95. Siu K-C, **Woollacott MH**. Attentional demands of postural control: the ability to selectively allocate information-processing resources. *Gait and Posture* 2007; 25:121-6. Epub 2006 Mar 22.
94. Gatts S, **Woollacott MH**. How Tai Chi improves balance: biomechanics of recovery to a walking slip in impaired seniors. *Gait and Posture*, 2007;25:205-14 [Epub ahead of print]
93. Chen J, **Woollacott MH**, Pologe S. Characteristics of Shifting Movements in Cellists. *Experimental Brain Research*, 2006 Oct;174:467-76. Epub 2006 Apr 27.
92. Hess JA, **Woollacott M**, Shivitz N. Ankle force and rate of force production increase following high intensity strength training in frail older adults. *Aging Clinical and Experimental Research* 18:107-15. 2006.
91. Gatts S, **Woollacott MH**. Neural mechanisms underlying balance improvements with short term Tai Chi training. *Aging Clinical and Experimental Research* 2006; 18:7-19.
90. Silsupadol P, Siu, K, Shumway-Cook A, **Woollacott MH**. Training of Balance under Single and Dual Task Conditions in Older Adults with Balance Impairment: Three Case Reports. *Physical Therapy* 2006; 86:269-281.
89. Lin S-I, **Woollacott MH**. Contributing factors to functional balance for older adults. *Age and Aging*. 2005; 34:358-63.
88. Hess, J, **Woollacott M**. Effect of high-intensity strength-training on functional measures of balance ability in balance-impaired older adults. *Journal of Manipulative and Physiological Therapeutics*. 2005;28:582-590.
87. Roncesvalles MN, Schmitz C, Zedka M, Assaiante C, **Woollacott M**. From egocentric to exocentric spatial orientation: The development of postural control in bi-manual and trunk inclination tasks. *Journal of Motor Behavior* 2005; 37: 404-416.
86. **Woollacott M**, Shumway-Cook A, Ciol M, Price R, Kartin D. Effect of balance training on muscle activity used in recovery of stability in children with cerebral palsy: a pilot study. *Developmental Medicine and Child Neurology* 2005; 47:455-461.
85. **Woollacott MH**, Shumway-Cook A. Postural dysfunction during standing and walking in children with cerebral palsy: What are the underlying problems and what new therapies might improve balance? *Neural Plasticity* 2005; 12:211-219.
84. VanderVelde TJ, **Woollacott MH**, Shumway-Cook A. Selective utilization of spatial working memory resources during stance posture. *Neuroreport* 2005; 16:773-777.
83. Verrier L, Langan J, Shumway-Cook A, **Woollacott M**. An intensive massed-practice approach to retraining balance post-Stroke. *Gait and Posture* 2005; 22:154-163.
82. Lin S-I, **Woollacott MH**. Jensen J. Differentiating postural responses following dynamically

changing balance threats in young adults, healthy older adults and unstable older adults: Kinematics and Kinetics. *Aging Clinical and Experimental Research* 2004; 16:369-374.

81. Ferber, R., Osternig, L.R., **Woollacott, M.H.**, Wasielewski, N.J., & Lee, J-H. Bilateral accommodations to anterior cruciate ligament deficiency and surgery. *Clinical Biomechanics* 2004; 19; 136-144.

80. Shumway-Cook A, Hutchison S, Kartin D, Price R, **Woollacott M**. The effect of balance training on recovery of stability in children with cerebral palsy. *Developmental Medicine and Child Neurology*, 2003;45:591-602.

79. Roncesvalles N, **Woollacott M**, Brown N, Jensen J. An emerging postural response: Is control of the hip possible in the newly walking child? *J Motor Behavior* 2003; 36:147-159

78. Ferber, R, Osternig L, **Woollacott M**, Wasielewski N, Lee J-H. Gait perturbation response in chronic anterior cruciate ligament deficiency and repair. *Clinical Biomechanics* 2003;18:132-141.

77. Roncesvalles N, **Woollacott M**, Burtner P. Neural Factors Underlying Reduced Postural Adaptability in Children with Cerebral Palsy. *NeuroReport*, 2002, 13:2407-2410.

76. Witherington DC, Hofsten C von, Rosander K, Robinette A, **Woollacott M**, Bertenthal B. The development of anticipatory adjustments in infancy. *Infancy*, 2002, 3:495-517.

75. Ferber, R., Osternig, L.R., Wasielewski, N.J., Lee, J-H., & **Woollacott, M.H.** Reactive balance adjustments to unexpected perturbations during human walking. *Gait and Posture*, 2002, 16: 238-248.

74. Ferber, R., Osternig, L.R., Wasielewski, N.J., Lee, J-H., & **Woollacott, M.H.** Gait mechanics in chronic ACL deficiency and subsequent repair. *Clinical Biomechanics*, 17: 274-285, 2002.

73. **Woollacott M**, Shumway-Cook A. Attention and the control of posture and gait. *Gait & Posture* 2002 16: 1-14.

72. Brauer SG, **Woollacott M**, Shumway-Cook A. The influence of a concurrent cognitive task on the compensatory stepping response to a perturbation in balance-impaired and healthy elders. *Gait & Posture* 2002;15:83-95.

71. Lin S-I, **Woollacott MH**. Differentiating postural responses following dynamically changing balance threats in young adults, healthy older adults and unstable older adults: Electromyography. *Journal of Motor Behavior*, 34: 37-44, 2002.

70. **Woollacott M**, Assaiante C. Development of postural control during gait initiation: effects of perturbation. *Exp Brain Res*. 2002;144:385-396.

69. Sundermier L, **Woollacott M**, Roncesvalles N, Jensen J. The development of balance control in children: comparisons of EMG and kinetic variables and chronological and developmental groupings. *Experimental Brain Research* 2001, 136:340-350.

68. Roncesvalles N, **Woollacott M**, Jensen J. Development of lower extremity kinetics for balance control in infants and young children. *J Motor Behavior* 2001; 33:180-192.

67. Brown, LA, Jensen, JJ, Korff T, **Woollacott, MH**. The translating platform paradigm: perturbation displacement waveform alters the postural response. *Gait and Posture* 2001;14:256-263.
66. Brauer, S, **Woollacott MH**, Shumway-Cook A. The interacting effects of cognitive demand and recovery of postural stability in balance-impaired elderly. *J Gerontology*, 2001; 56: M489-M496.
65. Jensen, JL, Brown LA, **Woollacott, MH**. Compensatory Stepping: The biomechanics of a preferred response among older adults. *Experimental Aging Research*, 27: 361-376, 2001.
64. Shumway-Cook A, Brauer S, **Woollacott M**. The Effect of a secondary task on performance of Up and Go test in community dwelling older adults. *Physical Therapy*, 2000; 80:896-903.
63. McChesney JW, **Woollacott MH**. The effect of age-related declines in proprioception and total knee replacement on postural control. *J Gerontology*. 2000; 55: 658-666.
62. Rankin J, **Woollacott M**, Shumway-Cook, A, Brown L. Cognitive influence on postural stability: a neuromuscular analysis in young and older adults. *J. Gerontology* 2000; 55: 112-119.
61. Shumway-Cook A, **Woollacott M**. Attentional demands and postural control: the effect of sensory context. *J Gerontology*. 2000; 55: M10-16.
60. Assaiante C, **Woollacott M**, Amblard B. Development of postural adjustment during gait initiation: kinematic and EMG analysis. *J Motor Behavior*,32: 211-226, 2000.
59. Chong RKY, Horak FB, **Woollacott MH**. Parkinson's disease impairs the ability to change set quickly. *J Neurological Sciences* 2000; 175:57-70.
58. Roncesvalles N, Jensen J, **Woollacott M**. The development of compensatory stepping skills in children. *J Motor Behavior* 2000; 32: 100-111.
57. Gamboian N, Chatfield S, **Woollacott M**. Further effects of somatic training on pelvic tilt and lumbar lordosis alignment during quiet stance and dynamic dance movement. *J. Dance Medicine and Science* 2000; 4: 90-98.
56. Gamboian N, Chatfield S, **Woollacott M**, S Barr, G Klug. Effect of dance technique training and somatic training on pelvic tilt and lumbar lordosis alignment during quiet stance and dynamic dance movement. *J. Dance Medicine and Science* 1999; 3:5-14.
55. Burtner PA, **Woollacott MH**, Qualls, C. Stance balance control with orthoses in a group of children with spastic diplegia. *Developmental Medicine and Child Neurology* 1999;41:748-757.
54. Chong RKY, Horak FB, **Woollacott MH**. Time-dependent influence of sensorimotor set on automatic responses to perturbed stance. *Experimental Brain Research*. 1999; 124:513-519.
53. Hall CD, Jensen JL, **Woollacott MH**. Rate and magnitude of force development: implications for balance control. *J Gerontology* 1999; 54:M507-513.
52. Brown L.A., Shumway-Cook, A & **Woollacott, M**. Attentional demands and postural recovery: the effects of aging. *J Gerontology* 1999; 54:M165-171.

51. Tang PF, **MH Woollacott** Phase-dependent modulation of proximal and distal postural responses to slips in young and older adults. *J Gerontology* 1999;54:M89-102.
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