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Awards

Scientific Dissemination Award (2016), Nebraska Foundation for Physical Therapy
Love of Learning Award (2015 and 2017), Phi Kappa Phi National Honor Society
Recognition of Outstanding Contribution Award (2014). Mayo School of Health Sciences Alumni Association, Rochester, MN
Angel Wings Award (2013). Madonna Rehabilitation Hospital, Lincoln, NE
Alumni Professional Development Award (2013). Golden Key International Honour Society, Atlanta, GA
Emerging Leader Award (2012). American Physical Therapy Association, Alexandria, VA
Harry E. Settles Contributor of the Year Award (2012). University of South Dakota, Vermillion, SD
Distinguished Young Alumna Award (2009). South Dakota State University, Brookings, SD

Education

Doctor of Physical Therapy (2010). Temple University, Philadelphia, PA
Master of Physical Therapy (2003). Mayo School of Health Sciences, Rochester, MN
Bachelor of Science (2001). South Dakota State University, Brookings, SD

SELECTED ARTICLES

Burnfield JM, Cesar GM, Buster TW, Irons SL, Pfeifer CM (2018). Walking and fitness improvements in child with diplegic cerebral palsy following motor-assisted elliptical intervention. *Pediatric Physical Therapy*, 30(4):E1-E7. DOI: 10.1097/PEP.0000000000000541.

Burnfield JM, Buster TW, Pfeifer CM, Irons SL, Cesar GM, Nelson CA (2018). Adapted motor-assisted elliptical for rehabilitation of children with physical disabilities. *ASME Journal of Medical Devices*, published online ahead of print, September 26, 2018. DOI: 10.1115/1.4041588.

Burnfield JM, Pfeifer CM, Kwapiszeski S, Irons SL, Buster TW, Cesar GM (2018). Impact of ICARE training speed and motor assistance on cardiovascular response. *Cardiopulmonary Physical Therapy Journal*, published online ahead of print, September 10, 2018. DOI: 10.1097/CPT.0000000000000098.

Pfeifer CM, Rowan D, Buster TW, Cesar GM, Irons SL, Burnfield JM (2018). Design and validation of a heart rate and speed monitoring device with the ICARE. *ASME Journal of Medical Devices*, published online ahead of print, August 29, 2018. DOI: 10.1115/1.4041337.

Burnfield JM, Cesar G, Buster TW, Irons SL, Nelson CA (2017). Kinematic and muscle demand similarities between motor-assisted elliptical training and walking: Implications for pediatric gait rehabilitation. *Gait and Posture*, 51:194-200. DOI: 10.1016/j.gaitpost.2016.10.018.

Irons SL, Hoffman JE (2016). Functional outcomes of a patient with acute paraplegia after open heart surgery: A case report. *Cardiopulmonary Physical Therapy Journal*, 27(4):115-121. DOI: 10.1097/CPT.0000000000000035.

Irons SL, Brusola GA, Buster TW, Burnfield JM (2015). Novel motor-assisted elliptical training intervention improves 6-minute walk test and oxygen cost for an individual with progressive supranuclear palsy. *Cardiopulmonary Physical Therapy Journal*, 26(2):36-41. DOI: 10.1097/CPT.0000000000000007.

Burnfield JM, Irons SL, Buster TW, Taylor AP, Hildner GA, Shu Y (2014). Comparative analysis of speed's impact on muscle demands during partial body weight support motor-assisted elliptical training. *Gait and Posture*, 39(1):314–320. DOI: 10.1016/j.gaitpost.2013.07.120.

Irons SL, Hoffman JE, Elliott S, Linnaus M (2012). Functional outcomes of patients with sternectomy after cardiothoracic surgery: A case series. *Cardiopulmonary Physical Therapy Journal*, 23(4):5-11. PMID: PMC3537184.

Lahman D, Low H, Irons SL, Ekstrum J (2011). Improving confidence and competence for first year physical therapy students through a focused blood pressure educational program. *Journal of Student Physical Therapy Research*, 4(2):48-58.

Pollentier B, Irons SL, Manfredi CB, DiBenedetto AM, Loton D, Seyler RD, Tych M, Newton RA (2010). Examination of the six minute walk test to determine functional capacity in people with chronic heart failure: A systematic review. *Cardiopulmonary Physical Therapy Journal*, 21(1):13-21. PMID: PMC2845244.

Anderson, SL (2006). Physical therapy with patients with HIV/AIDS. *Cardiopulmonary Physical Therapy Journal*, 17(3):103-109.

Svien L, Anderson S, Long T (2006). Research in pediatric physical therapy: An analysis of trends in first fifteen years of publication. *Pediatric Physical Therapy*, 18(2):126-132. DOI: 10.1097/01.ppt.0000223104.28243.5e.

SELECTED ABSTRACTS

Cesar GM, Irons SL, Garbin A, Eckels E, Buster TW, Burnfield JM (2017). Child with traumatic brain injury improved gait abilities following intervention with pediatric motor-assisted elliptical training: A case report. *Journal of Neurologic Physical Therapy*, 41(1):84. DOI: 10.1097/NPT.0000000000000156.

Burnfield JM, Irons SL, Cesar GM, Buster TW, Khot R, Nelson CA (2016). Pedi-ICARE training improves walking and endurance of child with cerebral palsy. *Archives of Physical Medicine and Rehabilitation*, 97(12):e19–e20. DOI: 10.1016/j.apmr.2016.09.053.

Irons SL, Buster TW, Karkowski-Schelar E, Johns E, Burnfield JM (2016). Individuals with multiple sclerosis improved walking endurance and decreased fatigue following motor-assisted elliptical training intervention. *Archives of Physical Medicine and Rehabilitation*, 97(10):e34. DOI: 10.1016/j.apmr.2016.08.100.

Burnfield JM, Buster TW, Irons SL, Cesar GM, Nelson CA, Rech NR, Nichols EM (2016). Pediatric walking vs. training on prototype motor-assisted elliptical: Kinematic comparison at self-selected comfortable speed. *Archives of Physical Medicine and Rehabilitation*, 97(10):e99. DOI: 10.1016/j.apmr.2016.08.306.

Burnfield JM, Buster TW, Irons SL, Rech N, Cesar GM, Pfeifer CM, Nelson CA (2016). Pediatric Intelligently Controlled Assistive Rehabilitation Elliptical for Walking and Fitness: Prototype Development and Biomedical Analysis. RESNA/NCART (Rehabilitation Engineering Society of North America/National Coalition for Assistive and Rehab Technology) 2016 annual convention, July 10-14, Arlington, VA.

Pfeifer CM, Burnfield JM, Kota S, Buster TW, Irons SL, Rowen DA, Nelson CA (2016). Positive Reinforcement System Design for Therapeutic Devices. RESNA/NCART (Rehabilitation Engineering Society of North America/National Coalition for Assistive and Rehab Technology) 2016 annual convention, July 10-14, Arlington, VA.

Pfeifer CM, Burnfield JM, Kota S, Buster TW, Irons SL, Sulski C, Nelson CA (2016). Design of a Custom Heart-Rate Control System for the Pediatric Intelligently Controlled Assistive Rehabilitation Elliptical. RESNA/NCART (Rehabilitation Engineering Society of North America/National Coalition for Assistive and Rehab Technology) 2016 annual convention, July 10-14, Arlington, VA.

Buster TW, Burnfield JM, Irons SL, Nelson CA, Trejo LH, Leutzinger TJ (2016). Pediatric walking vs. training on a prototype motor-assisted elliptical: kinematic and EMG comparisons at self-selected fast speeds. Conference proceedings, 2016 Annual Meeting Gait and Clinical Movement Analysis Society. Memphis, TN, May 17-20, 2016.

Burnfield JM, Irons SL, Buster TW (2016). Individual with progressive supranuclear palsy demonstrates improvements in walking distance and efficiency following a motor-assisted elliptical training intervention. Conference proceedings, 9th World Congress for Neurorehabilitation. Philadelphia, PA, May 12, 2016.

Burnfield JM, Buster TW, Irons SL (2016). Individuals post stroke improved walking endurance and efficiency following motor-assisted elliptical training intervention. Conference proceedings, 9th World Congress for Neurorehabilitation. Philadelphia, PA, May 12, 2016.

McCrary B, Burnfield JM, Darragh AR, Meza JL, Irons SL, Link AM, Brusola G (2014). Work injuries among therapists in physical rehabilitation. Proceedings of the Human Factors and Ergonomics Society Annual Meeting, Vol. 58 no. 1:1072-1076. DOI:10.1177/1541931214581224.