Sabrina Mele, J Neurol Neurophysiol 2019, Volume 10
DOI: 10.4172/2155-9562-C1-098

Outcomes after weighted lumbosacral orthosis (LSO) and exercises in patients with progressive cerebellar ataxia

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Readers will recognize the weighted lumbosacral orthosis (LSO) as a tool to enhance balance exercises to improve function in persons with progressive cerebellar ataxia. Somatosensory input via an LSO creates an enriched environment in outpatient PT to enhance the efficacy of static and dynamic gaze stabilization and postural control exercises in persons with progressive ataxia. A 59 year old female baseline scores performed 3-7 years prior ranged from 30% at worst to 43% at best on the sensory organization test (SOT) while a 69 year old male scores ranged from 29% to 32% at worst and 36% at best. Functional outcomes were compared pre and post intervention over 10 to 12 visits. Pre intervention, the female's gait speed was 0.85 m/s with poor quality. Five time sit to stand (FTSTS) was 20 seconds, SOT 43, 6 minute walk test (6 MWT) 360 feet x 2. Post 8 visits, her FTSTS was 20 seconds, SOT 46, 6 MWT 565 feet, gait speed was 0.6 m/s with improved quality. Post 12 visits, FTSTS 20 seconds, SOT 45, 6 MWT 780 feet and gait speed 0.66 m/s with improved quality. Pre intervention, the male's gait speed was 0.82 m/s with poor quality, FTSTS 15 seconds. Post intervention, gait speed was 1.0 m/s with improved quality, FTSTS 12 seconds, SOT 36% and 1080 feet in a 6 MWT. Post visit 10, while SOT was never repeated and FTSTS 16 seconds, 6 MWT 1146 feet, gait speed 1.0 m/s, both with improved quality. While more research is needed, immediate post intervention outcomes improved in patients with progressive cerebellar ataxia to that of the level of his/her postural control score 3-7 years prior and allowed them to function towards values of their aged matched healthy peers.

Biography

Sabrina Mele, PT, DPT received her Doctorate in Physical Therapy from University of Sciences in Philadelphia in 2010 and received her promotion to Advanced Physical Therapist from Good Shepherd Penn Partners, the formal rehabilitation provider for Penn Medicine (USA), where she currently works with both patients with vestibular and neurologic dysfunction. She became LSVT BIG certified in January 2013 and PWR trained for people with Parkinson's disease in August 2017 and Balance Wear by Motion Therapeutics certified in March 2018. She also completed the APTA's Competency Based Course at Emory University in Atlanta, Georgia. She is also a teaching Assistant for both- University of the Sciences, Philadelphia and Neumann University, Aston, PA (USA) respectively where she teaches students on the laboratory component of the neuromuscular tract. She has also presented posters on case studies within her clinical practice at several conferences in and outside of the United States and Italy respectively.

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