

The effects of a skilled physical therapy program on functional outcome measures and falls in patients with peripheral neuropathy

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Background: Peripheral Neuropathy (PN) is a disease affecting 500,000 people in the US. There are many types and categories of PN, including; hereditary, autoimmune, compressive, toxic and the most common etiology, diabetic neuropathy. Patients with a diagnosis of PN are affected in many ways, including suffering from sensory, motor, and/or autonomic symptoms. Problems in these systems, may lead to weakness, blood pressure irregularities, poor temperature control, pain, falls, decreased mobility, and often limit independent function and overall quality of life (QOL).

Methods: A retrospective analysis of the charts of 78 patients (44 females) with a diagnosis of PN was made to study the effects of a skilled physical therapy (PT) intervention on functional outcome measures and falls in these patients. A total of 78 subjects (with a mean age of 69 years +/- 8 were studied, 41 patients were treated with skilled therapy.

Etiology/type of PN	CMT (hereditary)	Toxic (CA Rx induced)	CIDP (autoimmune)	Diabetic	Unknown
TOTAL	6	8	16	42	6
Treatment	4	5	10	18	3
Control	2	3	6	24	3

Skilled PT treatment included therapeutic exercise and activities for ADL and functional improvements, a focus on neuromuscular re-education for static and dynamic balance activities, and manual techniques and modalities for motion and pain control.

Results: Patients in the treatment group demonstrated significant improvement in their functional outcome measures and had fewer falls than those not treated.

GROUP (mean values)	TUG*	BERG*	PAIN*	6MW*	STS(5)*	Falls
TREATMENT PRE	12.87	29/56	6.48/10	398	26.45	0
TREATMENT POST	10.02	41/56	3.29/10	859	20.16	2
NOT TREATED PRE	12.91	28/56	6.63/10	404	27.11	0
NOT TREATED POST	13.09	30/56	6.71/10	431	27.28	13

*TUG = Timed up and Go, Berg = Berg Balance Test, PAIN = pain on visual analog scale, 6MW = 6 minute walk test, STS(5) = sit to stand for 5 repetitions

Conclusions: A skilled PT program can improve outcome measures and reduce falls in patients with PN. Individualized and carefully (scientifically) progressed treatment to address individual functional deficits, enabled positive and meaningful outcome in these patients.

Biography

James Nussbaum started his professional career as a Health and Fitness Specialist at Johnson & Johnson, but after stints in rehabilitation after reconstructive knee surgery, he went back to school and completed his MS in Physical Therapy, the earned his PhD in Pathokinesiology, and later was Board Certified as a Sports Specialist. Over the past 9 years, as Research and Clinical Director of ProHealth & Fitness PT OT, he has focused on more medically complex patients, utilizing highly skilled therapeutic interventions to improve patients' quality of life. James has presented his research in Beijing, Barcelona, Canada, and throughout the U.S. He sits on the NYS Department of Health's Task Force on Fall Prevention, the Advisory Board of the Charcot Marie Tooth Association, Touro College PT Program, and TRIARQ, where he is the Co-Director of Research.

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