

The Effects of Peripheral Neuropathy on Physical Function

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Significance

Peripheral neuropathy is a general term for the family of diseases affecting more than 20 million U.S. citizens (US Congress, 2005).

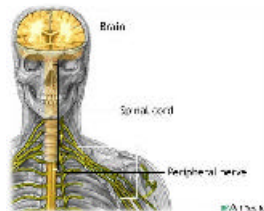
The most common cause of chronic neuropathy is diabetes, which affects 26 million people in Asia (Gu, 2003) where the potential of increase in diabetes cases is greatest (Zimmet, 2001)

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What is Peripheral Neuropathy?

Progressive degeneration of peripheral nerves (Lacomis, 2002).

Deterioration may give rise to tingling, hypersensitivity, burning, and numbness (Apfel et al 2001).



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Decreased self-reported Independence (Padua et al 2005)



Reduced self-reported Mobility (Padua et al 2005)



Increased Fall Risk (Tinetti, 1988)

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The purpose of this study was to compare physical functions of people with Peripheral Neuropathy (PN) to the control group in the areas of balance, gait, mobility, and strength. This allowed a quantifiable physiological assessment of the effects PN has on its patients.

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Participants

PN Subjects

- 9 women and 4 men
- Mean Age = 71.54 ± 9.12 years
- Height = 168.4 ± 8.3 cm
- Body mass = 75.0 ± 16.6 kg

Non-PN Controls

- 10 women and 4 men
- Mean age = 71.0 ± 9.12 years
- Height = 168.4 ± 9.0 cm
- Body mass = 73.6 ± 21.6 kg

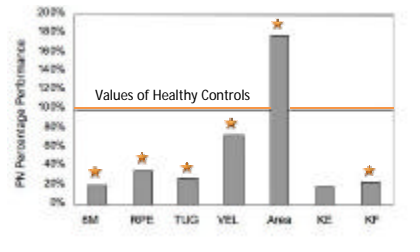
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Methods

- Balance test using a Force Platform (AMTI)
- Six Minute Walking Test (ATS, 2002)
- Timed Up-and-Go Test (Podsiadla et al, 1991).
- Strength Test using Biodex® isokinetic dynamometer

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Performance of PN group With Respect to Healthy Group



★ Indicates Significance

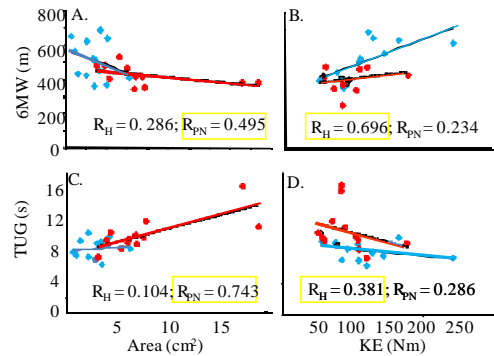
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Correlations

The 6MW was more correlated with strength measures. The TUG was more correlated balance measures.

	6MW (m)	TUG (s)
VEL (cm/s)	-0.474	0.612
Area (cm²)	-0.468	0.725
KE (Nm)	0.593	-0.354
KF (Nm)	0.504	-0.292

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◆ Healthy ● PN

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Conclusions

We have found that people with PN perform significantly lower than the Healthy population in the areas of gait, balance, functional mobility, functional capacity, and strength measures.

Also there are significant correlations between strength and the 6MW as well as between balance and the TUG.

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Questions???

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