

Clinical Note: How I Examine My Patient

The Shaking Shoelace

Bastiaan R. Bloem*, Rick C. Helmich, Tiane Tilanus and Bart P. van de Warrenburg
*Radboud University Medical Centre, Donders Institute for Brain, Cognition and Behaviour,
Department of Neurology, Nijmegen, The Netherlands*

Accepted 28 November 2018

It is good practice to physically examine patients while being undressed. Here, we illustrate that observation of clothes in dressed patients can occasionally also yield valuable information.

A 59-year-old man with Parkinson's reported a subjective tremor. Yet, neurological examination showed no tremor while observing the bare extremities (video section A, showing no discernible tremor in the bare feet). However, while wearing shoes, a subtle tremor was revealed by rhythmic oscillations of the left shoelace (video B), which presumably acted as a lever, much like the mechanisms used for earthquake detection. Power spectrum analysis of the video showed no discernible tremor in the bare feet, but examination of the oscillations of the left shoelace revealed a distinct tremor (peak frequency of 3.45 Hz) compatible with Parkinson's disease (video C).

This underscores that observing patients while still dressed may occasionally be needed to bring out the full repertoire of key physical signs.

ACKNOWLEDGMENTS

We thank Radim Krupička and Evžen Růžička for analysis of the tremor.

CONFLICT OF INTEREST

BRB, RH, and BvdW report no disclosures.



Video section A.

Author contributions

BB and TT: collecting video data and drafting the manuscript

RH: expert opinion and revising the manuscript

BvdW: arranging tremor quantification and revising the manuscript

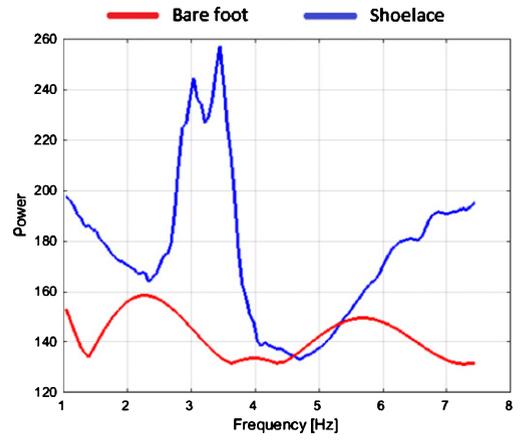
SUPPLEMENTARY MATERIAL

The supplementary material is available in the electronic version of this article: <http://dx.doi.org/10.3233/JPD-181541>.

*Correspondence to: Prof. Bastiaan R. Bloem, MD, PhD, Radboud University Medical Center, PO Box 9101, 6500 HB Nijmegen, The Netherlands. E-mail: bas.bloem@radboudumc.nl



Video section B.



Video section C.