

# DDSIG New and Noteworthy

APTA Neurology Section

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## New

### Static Posturography and Falls According to Pyramidal, Sensory and Cerebellar Functional Systems in People with Multiple Sclerosis. [Article Link](#)

Kalron A, Givon U, Frid L, Dolev M, Achiron A. *PLoS ONE*. 2015;11(10): e0164467.

#### INTRODUCTION:

There are only scarce data examining the contribution of specific neurological functional systems on balance measures in MS. Therefore, the primary aim of our study was to examine the differences in posturography parameters and fall incidence according to the pyramidal, cerebellar and sensory systems functional systems in PwMS.

#### METHODS:

The study included 342 PwMS, 211 women and mean disease duration of 8.2 (S.D = 8.3) years. The study sample was divided into six groups according to the pyramidal, cerebellar and sensory functional system scores, derived from the Expanded

Disability Status Scale (EDSS) data. Static postural control parameters were obtained from the Zebris FDM-T Treadmill. Participants were defined as "fallers" and "non-fallers" based on their fall history.

#### RESULTS:

PwMS affected solely in the pyramidal system have reduced stability compared to patients with cerebellar and sensory dysfunctions. The addition of sensory impairments to pyramidal dysfunction does not exacerbate postural control. The patients in the pure sensory group demonstrated increased stability compared to each of the three combined groups; pyramidal-cerebellar, pyramidal-sensory and pyramidal-cerebellar-sensory groups. **CONCLUSION:** This study confirms that disorders in neurological functional systems generate different effects on postural control and incidence of falls in the MS population.

#### CONCLUSIONS and CLINICAL IMPLICATIONS:

*Pyramidal system dysfunction decreases stability and increases fall risk. PwMS with pure sensory impairment have a better prognosis. If pyramidal and sensory dysfunction is present, solely training the sensory system may not improve balance.*

## Noteworthy

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### CSM:

Come see our table at the Myelin Melter Friday February 17, 2017, 6:00 – 9:00

DDSIG business Meeting  
Wednesday 2/15/17 4:30 pm

### CSM Programming:

#### Friday:

11:00 Movement Diagnosis in Neurologic Physical Therapy: Where Are We?

#### Friday:

3:00 Applying the Dual Task Taxonomy: Cognitive, Auditory, Visual, and Manual Modes

#### Saturday:

3:00 Optimizing Motor Learning in Rehabilitation: OPTIMAL Theory and Application

### Volunteer with the DDSIG!

<https://docs.google.com/forms/d/e/1FAIpQLScijsKHje902JR/DWqNK3eOtsl7JPdWQQBl1CD2hYR1-hw/viewform>

Or

email: [neuroiddsig@gmail.com](mailto:neuroiddsig@gmail.com)

Link to article:

<https://www.ncbi.nlm.nih.gov/pubmed/27741268>