

TEACHING COURSE - MOVEMENT DISORDERS
PHENOMENOLOGY OF MOVEMENT DISORDERS
AND THEIR ASSESSMENT IN CLINICAL SCALES:
Akinesia and Rigidity in
Parkinson Disease

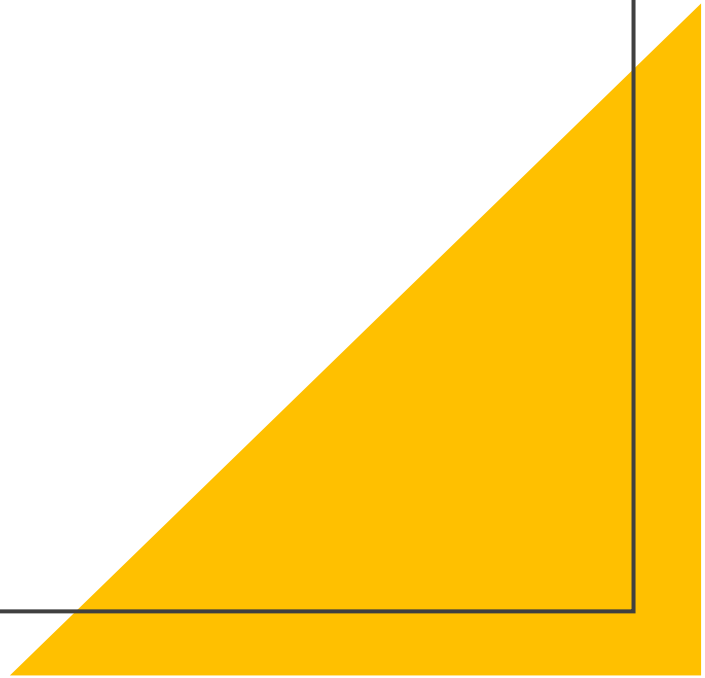
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Disclosures

- Honorarium for lecturing: UCB Pharma, Britannia
- Scientific Grant: EU-Horizon 2020, MJ Fox: PPMI



Learning Objectives

After this Teaching Course, attendees should be able

- To recognize the phenomenology of akinesia and rigidity in patients with Parkinson disease
- To identify the various presentations of akinesia and their fluctuations in different stages of Parkinson disease
- To know the major clinical scales appropriate for rating motor symptoms in PD
- To evaluate motor symptoms in PD patients using the MDS-Unified Parkinson Disease Rating Scale (MDS-UPDRS)

Phenomenology and Assessment of Bradykinesia and Rigidity

- Bradykinesia or slowness of movement is a cardinal sign of Parkinson's disease (PD).
- BRADYKINESIA: slowness of initiation of voluntary movement with progressive reduction in speed and amplitude of repetitive actions.
- Rigidity is judged on “slow passive movement of major joints with the patient in a relaxed position and the examiner manipulating the limbs and neck.”
- “lead- pipe” resistance: velocity-independent resistance to passive movement not solely reflecting failure to relax (ie, distinct from spasticity). A cogwheel phenomenon is often present, isolated “cogwheeling” without “lead-pipe” rigidity does not fulfill minimum requirements for rigidity.

Akinesia and Rigidity in Clinical Scales

- **Parkinson's disease: Movement Disorder Society - Unified Parkinson's Disease Rating Scale (MDS-UPDRS)**

Rigidity: Assessment in PART III, Motor part of the scale:

- Rigidity is judged on slow passive movement of major joints with the patient in a relaxed position and the examiner manipulating the limbs and neck.
 - Rigidity of neck and four extremities: rated by the investigator from 0 to 4
- Bradykinesia: Part III. The investigator should “rate what you see.” Each hand, foot and leg is tested separately.
 - Akinesia: Finger and hand tapping, foot tapping and leg movements (ratings from 0-4), arising from chair, gait, global spontaneity of movements.

- **Parkinson's disease: Unified Parkinson's Disease Rating Scale (UPDRS)**

- **Modified Bradykinesia Rating Scale (MBRS)**

References

- The Unified Parkinson's Disease Rating Scale (UPDRS): Status and recommendations. The Movement Disorder Society task force on ratings scales for Parkinson's disease. *MovDisord* 2003, 18(7):738-750
- Movement Disorder Society-sponsored revision of the Unified Parkinson's Disease Rating Scale (MDS-UPDRS): Scale presentation and clinimetric testing results. Goetz CG et al, *MovDisord* 2008, 23(15):2129-2170
- Assessing bradykinesia in Parkinsonian disorders. Pal G and Goetz CG. *Front in Neurol* 2013, 4(15):1-5
- The Modified Bradykinesia Rating Scale for Parkinson's disease: Reliability and comparison with kinematic measures. Heldman DA, et al. *MovDisord*. 2011 August; 26 (10) 1859-1863.
- MDS clinical diagnostic criteria for Parkinson's disease. Postuma RB, et al *Mov Disord*. 2015 Oct;30(12):1591-601.