

DEVELOPMENT OF A MSA CLINICAL DEFICITS SCALE (MSA-CDS)



DG/WG
Atypical
Parkinsonism

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Introduction

Multiple System Atrophy (MSA) is a rare, rapidly progressive neurodegenerative disorder characterized by parkinsonian, cerebellar, and autonomic symptoms. Disease severity is currently rated with the Unified Multiple System Atrophy Rating Scale (UMSARS), but this scale has limitations such as floor/ceiling effects and lengthy administration. While the MDS MSA Task Force revises UMSARS, we aim to develop a brief (<5 min), practical, and comprehensive tool to assess functional deficits and disease progression in routine clinical practice

Work Plan

Step 1: Literature Review - to identify relevant symptoms and scale items based on a) neuropathology-based natural history cohort studies and b) clinical assessment scale studies

Step 2: Consensus building

Consensus meeting with health care professionals, patients and caregivers
Identify deficit domains for category based rating system

Step 3: Scale Development

Step 4: Pilot Testing (n = 20 MSA patients)

Step 5: Expert Review and Approval with in-person meeting for scale finalization

Results

1. Speech/Swallowing

0	No impairment
1	Minor speech impairment without difficulties being understood and/or choking less than once per week, no dietary adaptations required
2	Moderate speech impairment, often asked to repeat statement and/or frequent choking, dietary adaptations required
3	Severe speech impairment, barely or not intelligible and/or nasogastric tube or gastrostomy feeding necessary

2. Motor skills

0	No impairment
1	Minor impairment, still able to perform all (or most) motor-skill related activities of daily life by themselves. Requires no or only little assistance
2	Moderate impairment. Requires help on a regular basis for cutting food, dressing themselves, washing, brushing teeth, combing hair, using the toilet
3	Can barely perform any motor-skill related task or is completely helpless

3. Autonomic dysfunction

0	No impairment
1	Minor impairment, no drug treatment required, no or only minor limitation of activities of daily life
2	Moderate impairment, drug treatment needed for either symptom and/or intermittent self catheterization and/or relevant limitation in most of activities of daily living
3	Severe impairment with indwelling catheter and/or regular syncopes and/or able to stand <1min on most occasions due to orthostatic hypotension. Note: No remaining sexual function alone is not sufficient to fulfill this milestone

4. GAIT

0	No impairment
1	Slight impairment, no assistance or walking aid required. Falls less than once per month
2	Moderate impairment, walking aid frequently or permanently required and/or regular falls (more than once per month)
3	Wheel chair bound

Functional domain based scale (example)

→ e.g.: a patient may be rated as **S2/M2/A1/G1**, allowing an easily applicable and easily comprehensible overview of the global impairment in each domain

Outlook

Current status of the project

Literature research regarding relevant domains as well as evaluation of currently used scale items
Local ethical board approvals

Expected timeline – next steps:

- Februar 2025: Finalization of literature research and next online meeting
- April 2025: Consensus meeting



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