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Unified Parkinson's Disease Rating Scale

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Development Committee, 1987

- Widely used rating scale designed to follow the longitudinal course of Parkinson's disease
- Completed by a trained and qualified clinician, based on clinical examination, observation and questioning of the patient
- Structured into six content areas
- Gives reliable information about motor disability
- In this study only parts III, items 32 and 33 from part IV and part V will be administered
- UPDRS part III, items 32 and 33 from part IV and part V will be done in the ON state

- I. Mentation, Behavior and Mood
- II. Activities of Daily Living
- III. Motor Examination
- IV. Complications of therapy
- V. Modified Hoehn & Yahr staging
- VI. Schwab and England ADLS



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SUBSCALE III MOTOR EXAMINATION

- Items 18 - 31

The UPDRS is not a perfect scale

- Some items have ambiguous descriptions for each score
- Certain items such as speech, facial expression, posture, body bradykinesia, and action tremor have relatively poor inter-rater reliability
- Although a UPDRS teaching tape is available, it is technically degraded and difficult to appreciate
- Standardized instructions and application of each test are essential for consistent rating, but this is absent in the UPDRS

Leave the administration of the UPDRS to the individual rater

▪ **Advantages:**

- The (experienced) rater does not have to undo his/her old ways
- Intra-rater reliability is preserved

▪ **Disadvantages:**

- Inter-rater reliability is compromised
- Interpretation of the UPDRS may vary globally, reducing the applicability of this outcome measure in a global study

Attempt to standardize the administration and interpretation of the UPDRS

▪ **Advantages:**

- Inter-rater reliability is improved
- Same standards are applied in various continents and different levels of familiarity with the UPDRS
- When performed uniformly, the results can be truly universal

▪ **Disadvantages:**

- More difficult for experienced raters to conform with a new system
- May alter the spirit of the UPDRS

- Always encourage MAXIMUM effort
- Demonstrate each item so the subject knows how fast and full the amplitude for each item should be
- Use yourself as the “normal” standard
- DO NOT adjust for age or presence of other non-parkinsonian condition that may make them perform the item slower such as arthritis, etc.
- Rate each item based on how the subject performance best fits the description of the specific score
- When the item score is uncertain (e.g., between 1 and 2), rate higher

- (Ask the subject to say the months of the year backwards in his normal speaking voice starting from December and ending in January)
- 0 = Normal.
- 1 = Slight loss of expression, diction and/or volume.
- 2 = Monotone, slurred but understandable; moderately impaired.
- 3 = Marked impairment, difficult to understand.
- 4 = Unintelligible.

19. FACIAL EXPRESSION

- 0 = Normal.
- 1 = Minimal hypomimia, could be normal “Poker Face”.
- 2 = Slight but definitely abnormal diminution of facial expression.
- 3 = Moderate hypomimia; lips parted some of the time.
- 4 = Masked or fixed facies with severe or complete loss of facial expression; lips parted $\frac{1}{4}$ inch ($\frac{1}{2}$ cm) or more.

- Observe the lips
- If lips parted some of the time, score a 3
- If lips parted for most of the time, score a 4
- To distinguish between 0, 1, and 2, look at blink rate and facial expression and classify as normal, “poker face”, or clearly more than “poker face”.

- (Ask the subject to place his/her hands on lap, midway between pronation and supination, and ask him/her to do serial subtractions)
- 0 = Absent.
- 1 = Slight and infrequently present.
- 2 = Mild in amplitude and persistent. Or moderate in amplitude, but only intermittently present.
- 3 = Moderate in amplitude and present most of the time.
- 4 = Marked in amplitude and present most of the time.

- (Ask the subject to stretch his/her arms out fully to assess postural tremor; then ask the subject to slowly point to a stationary target with his/her index finger then to his nose repeatedly to assess action tremor; repeat on the other side)
- 0 = Absent.
- 1 = Slight; present with action.
- 2 = Moderate in amplitude; present with action.
- 3 = Moderate in amplitude with posture holding as well as action.
- 4 = Marked in amplitude; interferes with feeding.

21. ACTION OR POSTURAL TREMOR OF HANDS cont.

- First classify the action and/or postural tremor as slight, moderate, or severe
- If slight and present with action AND/OR posture then score 1
- If moderate and present with action OR posture then score 2
- If moderate and present with action AND posture then score 3
- If moderate in action and slight in posture OR moderate in posture and slight in action then score a 3
- If severe then score a 4

- (Judged on passive movement of major joints with subject relaxed in sitting position. Cogwheeling to be ignored.)
- 0 = Absent.
- 1 = Slight or detectable only when activated by mirror or other movements.
- 2 = Mild to moderate.
- 3 = Marked, but full range of motion easily achieved.
- 4 = Severe, range of motion achieved with difficulty.

SCORING CONVENTIONS FOR ITEMS 23 - 26

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- If subject is able to perform the task as wide and as fast as examiner then score a 0
- If only mild slowing and/or decrease in amplitude but no arrests can be observed then score a 1
- If moderately impaired, with early fatiguing and/or occasional (1-2) arrests then score a 2
- If severely impaired, with frequent hesitation and/or arrests (>2) then score a 3
- If barely able to perform the task then score a 4

- (Ask the subject to extend arms at about shoulder height; ask the subject to tap thumb and index finger in rapid succession as fast and as full as possible for no more than 10 seconds; do this one side at a time)
- 0 = Normal
- 1 = Mild slowing and/or reduction in amplitude.
- 2 = Moderately impaired. Definite and early fatiguing. May have occasional arrests in movement.
- 3 = Severely impaired. Frequent hesitation in initiating movements or arrests in ongoing movement.
- 4 = Can barely perform the task.

- (Ask the subject to extend arms at about shoulder height; ask him/her to open and close hands in rapid succession as fast and as full as possible for no more than 10 seconds; do this one hand at a time)
- 0 = Normal.
- 1 = Mild slowing and/or reduction in amplitude.
- 2 = Moderately impaired. Definite and early fatiguing. May have occasional arrests in movement.
- 3 = Severely impaired. Frequent hesitation in initiating movements or arrests in ongoing movement.
- 4 = Can barely perform the task.

25. RAPID ALTERNATING MOVEMENTS OF HANDS

- (Ask the subject to pronate and supinate his/her hands, as fast and as full as possible, for no more than 10 seconds while arms are fully extended; do this with both hands simultaneously)
- 0 = Normal
- 1 = Mild slowing and /or reduction in amplitude.
- 2 = Moderately impaired. Definite and early fatiguing. May have occasional arrests in movement.
- 3 = Severely impaired. Frequent hesitation in initiating movements or arrests in ongoing movement.
- 4 = Can barely perform the task.

- (Ask the subject to lift his/her foot at least 3 inches (8 cm) from the ground and tap his heel as fast as possible for no more than 10 seconds; do this one heel at a time)
- 0 = Normal.
- 1 = Mild slowing and/or reduction in amplitude.
- 2 = Moderately impaired. Definite and early fatiguing. May have occasional arrests in movement.
- 3 = Severely impaired. Frequent hesitation in initiating movements or arrests in ongoing movement.
- 4 = Can barely perform the task.

- (Subject attempts to rise from a straight backed chair with arms; ask subject to stand with arms folded across chest; do not presume that the subject cannot do this regardless of his motor/functional state)
- 0 = Normal.
- 1 = Slow; or may need more than one attempt.
- 2 = Pushes self up from arms of seat.
- 3 = Tends to fall back and may have to try more than one time, but can get up without help.
- 4 = Unable to arise without help.

- 0 = Normal erect.
- 1 = Not quite erect, slightly stooped posture; could be normal for older person.
- 2 = Moderately stooped posture, definitely abnormal; can be slightly leaning to one side.
- 3 = Severely stooped posture with kyphosis; can be moderately leaning to one side.
- 4 = Marked flexion with extreme abnormality of posture.

- 0 = Normal.
- 1 = Walks slowly, may shuffle with short steps, but no festination (hastening steps) or propulsion.
- 2 = Walks with difficulty, but requires little or no assistance; may have some festination, short steps, or propulsion.
- 3 = Severe disturbance of gait, requiring assistance.
- 4 = Cannot walk at all, even with assistance.

- (Ask the subject to stand erect with feet no more than shoulder width apart; tell him/her you are going to give a good tug from behind and he/she should try to steady him/herself; give a test tug; then give your full tug -enough to make him/her take at least one step backward)
- 0 = Normal
- 1 = Retropulsion, but recovers unaided.
- 2 = Absence of postural response; would fall if not caught by examiner.
- 3 = Very unstable, tends to lose balance spontaneously.
- 4 = Unable to stand without assistance.

- Up to 2 half steps → score a 0
- More than 2 half steps but recovers unaided → score a 1
- When has to be caught by the examiner → score a 2
- If tends to loose balance spontaneously → score a 3
- If unable to stand without assistance → score a 4

- (Combining slowness, hesitancy, decreased arm swing, small amplitude and poverty of movement in general)
- 0 = None.
- 1 = Minimal slowness, giving movement a deliberate character; could be normal for some persons. Possibly reduced amplitude.
- 2 = Mild degree of slowness and poverty of movement which is definitely abnormal. Alternatively, some reduced amplitude.
- 3 = Moderate slowness, poverty or small amplitude of movement.
- 4 = Marked slowness, poverty or small amplitude of movement.



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Subscale IV

- Items 32 and 33

32. DURATION:

- What proportion of the waking day are dyskinesias present?
(Historical Information)
- 0 = None.
- 1 = 1 - 25% of day.
- 2 = 26 - 50% of day.
- 3 = 51 - 75% of day.
- 4 = 76 - 100% of day.

- How disabling are the dyskinesias?
(Historical information; may be modified by office examination.)
- 0 = Not disabling.
- 1 = Mildly disabling.
- 2 = Moderately disabling.
- 3 = Severely disabling.
- 4 = Completely disabled.



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Subscale V

- Modified Hoehn and Yahr Staging of Parkinson's Disease
Hoehn MM, Yahr MD. Parkinsonism: onset, progression and mortality. *Neurology* 1967;17:427-42

- Used to stage Parkinson's disease
- Staged from 0 to 5
- Used as exclusion criterion for this protocol
- Staging of PD should be performed in the ON state
- Assessed at screening visit, and BV2

- 0 = No signs of disease
- 1 = Unilateral disease
- 1.5 = Unilateral plus axial involvement
- 2 = Bilateral disease, without impairment of balance
- 2.5 = Mild bilateral disease with recovery on pull test
- 3 = Mild to moderate bilateral disease, some postural instability, physically independent
- 4 = Severe disability, still able to walk or stand unassisted
- 5 = Wheelchair bound or bedridden unless aided