A well-established measure:
The Unified Parkinson’s Disease Rating Scale (UPDRS)

Developed to address the need for a comprehensive PD measurement tool:

• Introduced in 1987 by a team of PD investigators as an overall assessment scale that would quantify the signs and symptoms of PD
  — Allows for both an overall measure of disability and individual subscores
  — Encompasses earlier rating scales: Hoehn and Yahr staging scale (assessed motor skills), and the modified Schwab and England activities of daily living (ADL) scale

20 years of broad usage: UPDRS is the most commonly used research tool to evaluate new treatments for Parkinson’s disease

Designed to assess PD symptoms

• Includes both scoring by a clinician (motor examination) and a historical report of mental functioning and activities of daily living (ADL) obtained by questioning the patient
• Allows the clinician to assess the worsening or improvement of PD over time
• Symptomatic worsening/improvement can be measured as a change from baseline
  — Worsening of symptoms increases score
  — Improvement in symptoms decreases score

Example of a UPDRS chart measuring the change from baseline (mean ± SE)

“The UPDRS is a useful way to maintain an ongoing record of patient function and to assess disability.”
(Olanow, 2001)

“The most widely used standardized scale to assess parkinsonism is the UPDRS.”
(Rascol, 2002)
Overview of UPDRS and subscale items

Total UPDRS consists of four parts

Parts I, II, and III contain 44 questions each measured on a 5-point scale (0-4).

I. Mentation, behavior, and mood: intellectual impairment, thought disorder, motivation/initiative, depression

II. Activities of daily living (ADL): speech, salivation, swallowing, handwriting, cutting food, dressing, hygiene, turning in bed, falling, freezing, walking, tremor, sensory complaints

III. Motor examination: speech, facial expression, tremor at rest, action tremor, rigidity, finger taps, hand movements, hand pronation and supination, leg agility, arising from chair, posture, gait, postural stability, body bradykinesia

In monotherapy, a “Total UPDRS” score is the combined sum of parts I, II, and III: 0 (not affected) to 176 (most severely affected).

In adjunct therapy, part IV is included. Part IV contains 11 questions and the scale can range from 0 to 23.


Motor subscales provide a measure of key motor symptoms

Representative sample of key measurement items from the UPDRS scale

<table>
<thead>
<tr>
<th>UPDRS Item</th>
<th>Assessment</th>
<th>Scale Measurement Range</th>
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</thead>
<tbody>
<tr>
<td>Bradykinesia subscale</td>
<td>Score includes • body bradykinesia and hypokinesia</td>
<td>0 (not affected) to 36 (most severely affected)</td>
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<tr>
<td></td>
<td>• left- and right-hand finger taps, opening and closing of hands, pronation/supination of hands, and heel taps</td>
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<tr>
<td>Tremor subscale</td>
<td>Score includes • action tremor of right and left hands</td>
<td>0 (not affected) to 32 (most severely affected)</td>
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<tr>
<td></td>
<td>• resting tremor in the left and right hands and feet</td>
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</tr>
<tr>
<td></td>
<td>• resting tremor of the face, lips, and chin</td>
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<tr>
<td>Rigidity subscale</td>
<td>Score includes • rigidity in the neck</td>
<td>0 (not affected) to 20 (most severely affected)</td>
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<tr>
<td></td>
<td>• rigidity in the left and right upper and lower extremities</td>
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<tr>
<td>PIGD (postural instability and gait disorder)</td>
<td>Score includes • falling, freezing, ability to walk</td>
<td>0 (not affected) to 20 (most severely affected)</td>
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<tr>
<td></td>
<td>• gait, postural stability</td>
<td></td>
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</table>

References