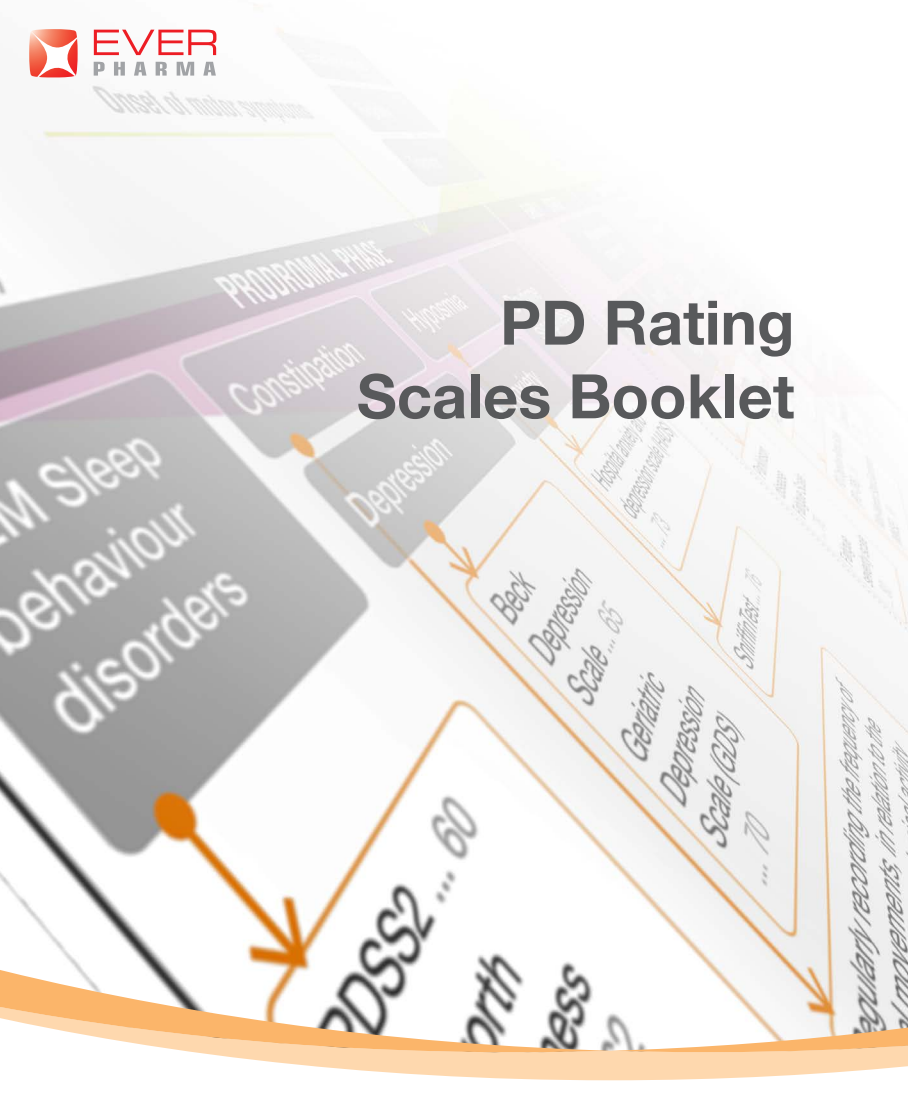
EVER PHARMA

PD Rating Scales Booklet



Essential Clinical Rating Scales in Parkinson's Disease

Foreword

Dear Healthcare Professionals,

As a specialty pharmaceuticals company focused on the R&D, production and commercialization of products in neurology, we hope this collection of the most common rating scales in Parkinson's Disease (PD) will support you in your daily work and research.

PD is a serious and debilitating condition that affects way too many patients worldwide. It is our commitment as a therapy provider to be a true partner of the healthcare professional in delivering the best quality care for the patient. This booklet represents part of our commitment to the partnership with those who deal with PD patients on a regular basis.

Sincerely,

Georges Kahwati
General Manager
EVER Neuro Pharma

Nicole Hehn
International Nursing & Application Manager
EVER Neuro Pharma

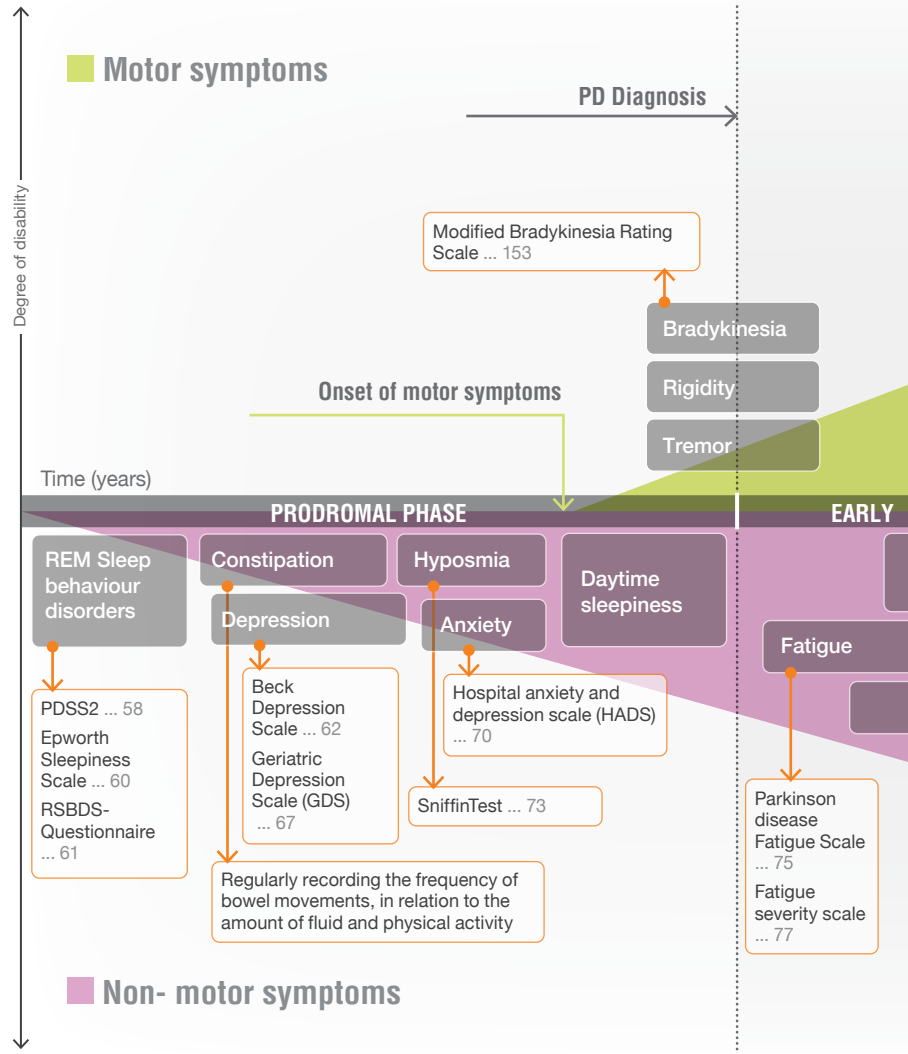
What the Scales Booklet is for…

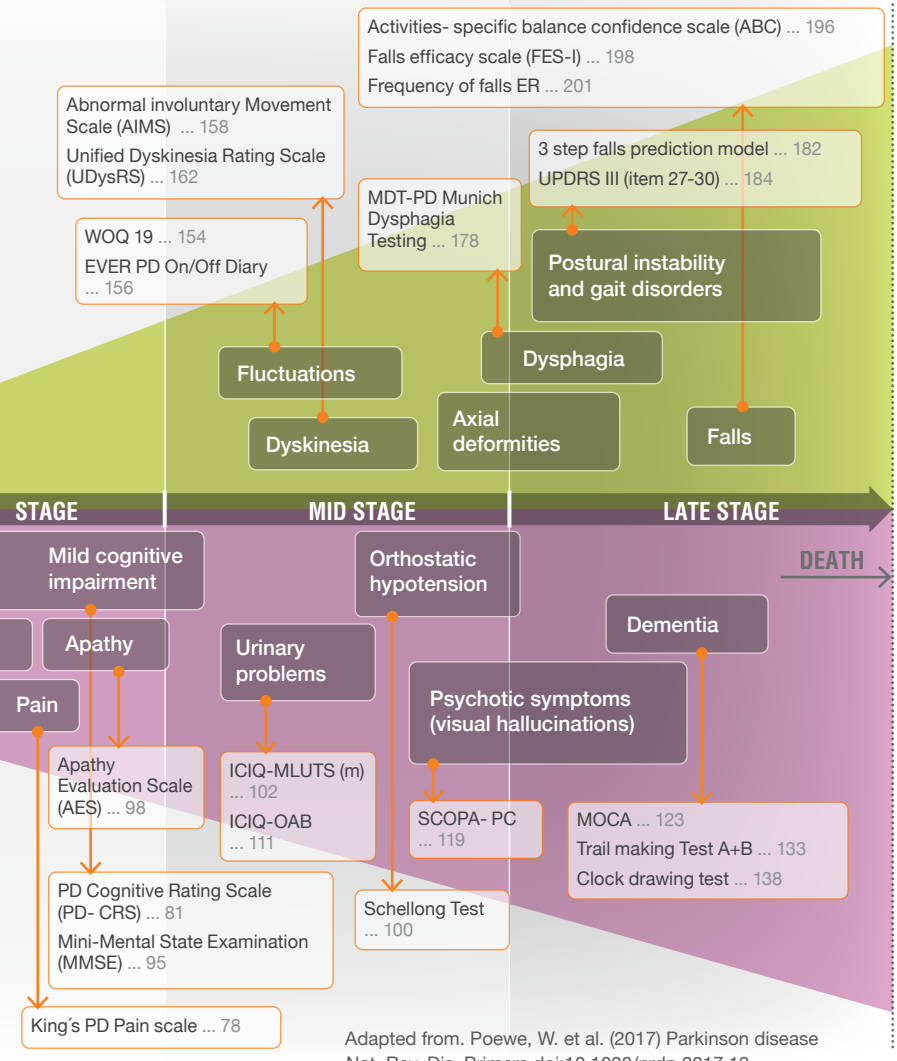
Parkinson disease (PD) is a progressive neurologic condition that causes motor and non-motor symptoms. Early and second line treatments provide symptomatic benefit, but no current treatment has been proven to slow disease progression. Therefore, PD requires a means of rating the severity of disease by measuring motor and non-motor symptoms as well as assessment of Quality of Life with the ability to perform daily routine and activities. The most common rating scales are the Unified Parkinson Disease Rating Scale (UPDRS), Hoehn and Yahr staging, and the Schwab and England rating of activities of daily living. Each of these rating scales are described, including detailed instructions on how to implement these ratings.

Some scales assess motor manifestations or complications of treatment, and ratings may vary depending upon whether observations are recorded during the ON or OFF phase for those with such medication-induced fluctuations. Since limitations to these scales occur and must be considered when using them, we provide additional scales for certain field in Parkinson´s.

Multiple different scales for PD have been developed for quantification and the purpose of any rating scale is to provide quantification of a domain of interest. This booklet gives an overview of the internationally most used scales in PD and shall support as a quick reference guide.

Appearance of motor and non-motor symptoms during the Parkinson's Disease progression





Adapted from. Poewe, W. et al. (2017) Parkinson disease Nat. Rev. Dis. Primers doi:10.1038/nrdp.2017.13

notes

Severity of symptoms

Unified Parkinsons Disease Rating Scale (MDS-UPDRS)

The Movement Disorder Society (MDS)-sponsored new version of the UPDRS is founded on the critique that was formulated by the Task Force for Rating Scales in Parkinson's disease (Mov Disord 2003;18:738-750). Thereafter, the MDS recruited a Chairperson to organize a program to provide the Movement Disorder community with a new version of the UPDRS that would maintain the overall format of the original UPDRS, but address issues identified in the critique as weaknesses and ambiguities. The Chairperson **identified** subcommittees with chairs and members. Each part was written by the appropriate subcommittee members and then reviewed and ratified by the entire group. These members are listed below.

The MDS-UPDRS has four parts: Part I (non-motor experiences of daily living), Part II (motor experiences of daily living, Part III (motor examination) and Part IV (motor complications). Part I has two components: IA concerns a number of behaviors that are assessed by the investigator with all pertinent information from patients and caregivers, and IB is completed by the patient with or without the aid of the caregiver, but independently of the investigator. These sections can, however, be reviewed by the rater to ensure that all questions are answered clearly and the rater can help explain any perceived ambiguities. Part II is designed to be a self-administered questionnaire like Part IB, but can be reviewed by the investigator to ensure completeness and clarity. Of note, the official versions of Part IA, Part IB and Part II of the MDS-UPDRS do not have separate on or off ratings. However, for individual programs or protocols the same questions can be used separately for on and off. Part III has instructions for the rater to give or demonstrate to the patient; it is completed by the rater. Part IV has instructions for the rater and also instructions to be read to the patient. This part integrates patient-derived information with the rater's clinical observations and judgments and is completed by the rater.

The authors of this new version are:

Chairperson: Christopher G. Goetz

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Part I: Non-Motor Aspects of Experiences of Daily Living (nM-EDL)

Overview: This portion of the scale assesses the non-motor impact of Parkinson's disease (PD) on patients' experiences of daily living. There are 13 questions. Part 1A is administered by the rater (six questions) and focuses on complex behaviors. Part 1B is a component of the self-administered Patient Questionnaire that covers seven questions on non-motor experiences of daily living.

Part 1A: In administering Part IA, the examiner should use the following guidelines:

Mark at the top of the form the primary data source as patient, caregiver, or patient and caregiver in equal proportion.

The response to each item should refer to a period encompassing the prior week including the day on which the information is collected.

All items must have an integer rating (no half points, no missing scores). In the event that an item does not apply or cannot be rated (e.g., amputee who cannot walk), the item is marked UR for Unable to Rate.

The answers should reflect the usual level of function and words such as "usually", "generally", "most of the time" can be used with patients.

Each question has a text for you to read (Instructions to patients/caregiver). After that statement, you can elaborate and probe based on the target symptoms outlined in the Instructions to examiner. You should NOT READ the RATING OPTIONS to the patient/caregiver, because these are written in medical terminology. From the interview and probing, you will use your medical judgment to arrive at the best response.

Patients may have co-morbidities and other medical conditions that can affect their function. You and the patient must rate the problem as it exists and do not attempt to separate elements due to Parkinson's disease from other conditions.

EXAMPLE OF NAVIGATING THROUGH THE RESPONSE OPTIONS FOR PART 1A

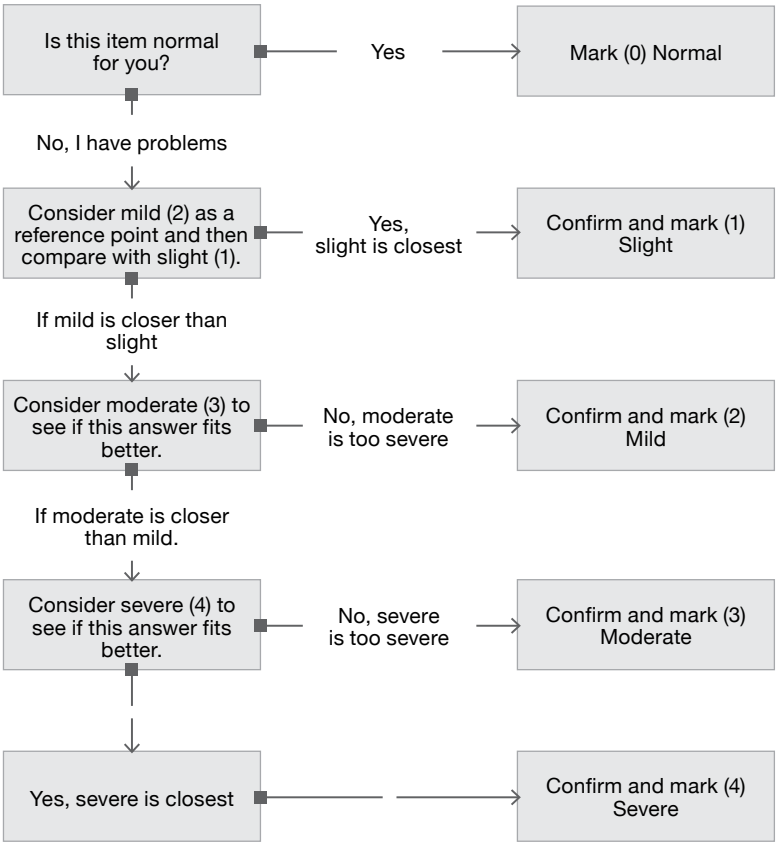
Suggested strategies for obtaining the most accurate answer:

After reading the instructions to the patient, you will need to probe the entire domain under discussion to determine Normal vs. problematic: If your questions do not identify any problem in this domain, record 0 and move on to the next question.

If your questions identify a problem in this domain, you should work next with a reference anchor at the mid-range (option 2 or Mild) to find out if the patient functions

at this level, better or worse. **You will not be reading the choices of responses to the patient as the responses use clinical terminology. You will be asking enough probing questions to determine the response that should be coded.**

Work up and down the options with the patient to identify the most accurate response, giving a final check by excluding the options above and below the selected response.



Part I: Non-Motor Aspects of Experiences of Daily Living (nM-EDL)

Part 1A: Complex behaviors: [completed by rater]

Primary source of information:

☐ Patient ☐ Caregiver ☐ Patient and Caregiver in Equal Proportion

To be read to the patient: I am going to ask you six questions about behaviors that you may or may not experience. Some questions concern common problems and some concern uncommon ones. If you have a problem in one of the areas, please choose the best response that describes how you have felt MOST OF THE TIME during the PAST WEEK. If you are not bothered by a problem, you can simply respond NO. I am trying to be thorough, so I may ask questions that have nothing to do with you.

1.1 COGNITIVE IMPAIRMENT

Instructions to examiner: Consider all types of altered level of cognitive function including cognitive slowing, impaired reasoning, memory loss, deficits in attention and orientation. Rate their impact on activities of daily living as perceived by the patient and/or caregiver.

Instructions to patients [and caregiver]: Over the past week have you had problems remembering things, following conversations, paying attention, thinking clearly, or finding your way around the house or in town? [If yes, examiner asks patient or caregiver to elaborate and probes for information.]

0: Normal: No cognitive impairment.

1: Slight: Impairment appreciated by patient or caregiver with no concrete interference with the patient's ability to carry out normal activities and social interactions.

2: Mild: Clinically evident cognitive dysfunction, but only minimal interference with the patient's ability to carry out normal activities and social interactions.

3: Moderate: Cognitive deficits interfere with but do not preclude the patient's ability to carry out normal activities and social interactions.

4: Severe: Cognitive dysfunction precludes the patient's ability to carry out normal activities and social interactions.

SCORE	

1.2 HALLUCINATIONS AND PSYCHOSIS

Instructions to examiner: Consider both illusions (misinterpretations of real stimuli) and hallucinations (spontaneous false sensations). Consider all major sensory domains (visual, auditory, tactile, olfactory and gustatory). Determine presence of unformed (for example sense of presence or fleeting false impressions) as well as formed (fully developed and detailed) sensations. Rate the patient's insight into hallucinations and identify delusions and psychotic thinking.

Instructions to patients [and caregiver]: Over the past week have you seen, heard, smelled or felt things that were not really there? [If yes, examiner asks patient or caregiver to elaborate and probes for information.]

0: Normal: No hallucinations or psychotic behavior.

1: Slight: Illusions or non-formed hallucinations, but patient recognizes them without loss of insight.

2: Mild: Formed hallucinations independent of environmental stimuli. No loss of insight.

3: Moderate: Formed hallucinations with loss of insight.

4: Severe: Patient has delusions or paranoia.

SCORE	

1.3 DEPRESSED MOOD

Instructions to examiner: Consider low mood, sadness, hopelessness, feelings of emptiness or loss of enjoyment. Determine their presence and duration over the past week and rate their interference with the patient's ability to carry out daily routines and engage in social interactions.

Instruction to the patient (and caregiver): Over the past week have you felt low, sad, hopeless or unable to enjoy things? If yes, was this feeling for longer than one day at a time? Did it make it difficult for you carry out your usual activities or to be with people? [If yes, examiner asks patient or caregiver to elaborate and probes for information.]

0: Normal: No depressed mood.

1: Slight: Episodes of depressed mood that are not sustained for more than one day at a time. No interference with patient's ability to carry out normal activities and social interactions.

2: Mild: Depressed mood that is sustained over days, but without interference with normal activities and social interactions.

3: Moderate: Depressed mood that interferes with, but does not preclude, the patient's ability to carry out normal activities and social interactions.

4: Severe: Depressed mood precludes patient's ability to carry out normal activities and social interactions.

SCORE	

1.4 ANXIOUS MOOD

Instructions to examiner: Determine nervous, tense, worried or anxious feelings (including panic attacks) over the past week and rate their duration and interference with the patient's ability to carry out daily routines and engage in social interactions.

Instructions to patients [and caregiver]: Over the past week have you felt nervous, worried or tense? If yes, was this feeling for longer than one day at a time? Did it make it difficult for you to follow your usual activities or to be with other people? [If yes, examiner asks patient or caregiver to elaborate and probes for information.]

0: Normal: No anxious feelings.

1: Slight: Anxious feelings present but not sustained for more than one day at a time. No interference with patient's ability to carry out normal activities and social interactions.

2: Mild: Anxious feelings are sustained over more than one day at a time, but without interference with patient's ability to carry out normal activities and social interactions.

3: Moderate: Anxious feelings interfere with, but do not preclude, the patient's ability to carry out normal activities and social interactions.

4: Severe: Anxious feelings preclude patient's ability to carry out normal activities and social interactions.

SCORE	

1.5 APATHY

Instructions to examiner: Consider level of spontaneous activity, assertiveness, motivation and initiative and rate the impact of reduced levels on performance of daily routines and social interactions. Here the examiner should attempt to distinguish between apathy and similar symptoms that are best explained by depression.

Instructions to patients (and caregiver): Over the past week, have you felt indifferent to doing activities or being with people? [If yes, examiner asks patient or caregiver to elaborate and probes for information.]

0: Normal: No apathy.

1: Slight: Apathy appreciated by patient and/or caregiver, but no interference with daily activities and social interactions.

2: Mild: Apathy interferes with isolated activities and social interactions.

3: Moderate: Apathy interferes with most activities and social interactions.

4: Severe: Passive and withdrawn, complete loss of initiative.

SCORE	

1.6 FEATURES OF DOPAMINE DYSREGULATION SYNDROME

Instructions to examiner: Consider involvement in a variety of activities including atypical or excessive gambling (e.g. casinos or lottery tickets), atypical or excessive sexual drive or interests (e.g., unusual interest in pornography, masturbation, sexual demands on partner), other repetitive activities (e.g. hobbies, dismantling objects, sorting or organizing), or taking extra non-prescribed medication for non-physical reasons (i.e., addictive behavior). Rate the impact of such abnormal activities/behaviors on the patient's personal life and on his family and social relations (including need to borrow money or other financial difficulties like withdrawal of credit cards, major family conflicts, lost time from work, or missed meals or sleep because of the activity).

Instructions to patients [and caregiver]: Over the past week, have you had unusually strong urges that are hard to control? Do you feel driven to do or think about something and find it hard to stop? [Give patient examples such as gambling, cleaning, using the computer, taking extra medicine, obsessing about food or sex, all depending on the patients.]

0: Normal: No problems present.

1: Slight: Problems are present but usually do not cause any difficulties for the patient or family/caregiver.

2: Mild: Problems are present and usually cause a few difficulties in the patient's personal and family life.

3: Moderate: Problems are present and usually cause a lot of difficulties in the patient's personal and family life.

4: Severe: Problems are present and preclude the patient's ability to carry out normal activities or social interactions or to maintain previous standards in personal and family life.

SCORE	

The remaining questions in Part I (Non-motor Experiences of Daily Living) [Sleep, Daytime Sleepiness, Pain and Other Sensation, Urinary Problems, Constipation Problems, Lightheadedness on Standing, and Fatigue] are in the **Patient Questionnaire** along with all questions in Part II [Motor Experiences of Daily Living].

Patient Questionnaire:

Instructions:

This questionnaire will ask you about your experiences of daily living.

There are 20 questions. We are trying to be thorough, and some of these questions may therefore not apply to you now or ever. If you do not have the problem, simply mark 0 for NO.

Please read each one carefully and read all answers before selecting the one that best applies to you.

We are interested in your average or usual function over the past week including today. Some patients can do things better at one time of the day than at others. However, only one answer is allowed for each question, so please mark the answer that best describes what you can do **most of the time**.

You may have other medical conditions besides Parkinson's disease. Do not worry about separating Parkinson's disease from other conditions. Just answer the question with your best response.

Use only 0, 1, 2, 3, 4 for answers, nothing else. Do not leave any blanks.

Your doctor or nurse can review the questions with you, but this questionnaire is for patients to complete, either alone or with their caregivers.

Who is filling out this questionnaire (check the best answer):

☐ Patient ☐ Caregiver ☐ Patient and Caregiver in Equal Proportion

1.7 SLEEP PROBLEMS

Over the past week, have you had trouble going to sleep at night or staying asleep through the night? Consider how rested you felt after waking up in the morning.

0: Normal: No problems.

1: Slight: Sleep problems are present but usually do not cause trouble getting a full night of sleep.

2: Mild: Sleep problems usually cause some difficulties getting a full night of sleep.

3: Moderate: Sleep problems cause a lot of difficulties getting a full night of sleep, but I still usually sleep for more than half the night.

4: Severe: I usually do not sleep for most of the night.

SCORE	

1.8 DAYTIME SLEEPINESS

Over the past week, have you had trouble staying awake during the daytime?

0: Normal: No daytime sleepiness.

1: Slight: Daytime sleepiness occurs but I can resist and I stay awake.

2: Mild: Sometimes I fall asleep when alone and relaxing. For example, while reading or watching TV.

3: Moderate: I sometimes fall asleep when I should not. For example, while eating or talking with other people.

4: Severe: I often fall asleep when I should not. For example, while eating or talking with other people.

SCORE	

1.9 PAIN AND OTHER SENSATIONS

Over the past week, have you had uncomfortable feelings in your body like pain, aches tingling or cramps?

0: Normal: No uncomfortable feelings.

1: Slight: I have these feelings. However, I can do things and be with other people without difficulty.

2: Mild: These feelings cause some problems when I do things or am with other people.

3: Moderate: These feelings cause a lot of problems, but they do not stop me from doing things or being with other people.

4: Severe: These feelings stop me from doing things or being with other people.

SCORE	

1.10 URINARY PROBLEMS

Over the past week, have you had trouble with urine control? For example, an urgent need to urinate, a need to urinate too often, or urine accidents?

0: Normal: No urine control problems.

1: Slight: I need to urinate often or urgently. However, these problems do not cause difficulties with my daily activities.

2: Mild: Urine problems cause some difficulties with my daily activities. However, I do not have urine accidents.

3: Moderate: Urine problems cause a lot of difficulties with my daily activities, including urine accidents.

4: Severe: I cannot control my urine and use a protective garment or have a bladder tube.

SCORE	

1.11 CONSTIPATION PROBLEMS

Over the past week have you had constipation troubles that cause you difficulty moving your bowels?

0: Normal: No constipation.

1: Slight: I have been constipated. I use extra effort to move my bowels. However, this problem does not disturb my activities or my being comfortable.

2: Mild: Constipation causes me to have some troubles doing things or being comfortable.

3: Moderate: Constipation causes me to have a lot of trouble doing things or being comfortable. However, it does not stop me from doing anything.

4: Severe: I usually need physical help from someone else to empty my bowels.

SCORE	

1.12 LIGHT HEADEDNESS ON STANDING

Over the past week, have you felt faint, dizzy or foggy when you stand up after sitting or lying down?

0: Normal: No dizzy or foggy feelings.

1: Slight: Dizzy or foggy feelings occur. However, they do not cause me troubles doing things.

2: Mild: Dizzy or foggy feelings cause me to hold on to something, but I do not need to sit or lie back down.

3: Moderate: Dizzy or foggy feelings cause me to sit or lie down to avoid fainting or falling.

4: Severe: Dizzy or foggy feelings cause me to fall or faint.

SCORE	

1.13 FATIGUE

Over the past week, have you usually felt fatigued? This feeling is not part of being sleepy or sad.

0: Normal: No fatigue.

1: Slight: Fatigue occurs. However it does not cause me troubles doing things or being with people.

2: Mild: Fatigue causes me some troubles doing things or being with people.

3: Moderate: Fatigue causes me a lot of troubles doing things or being with people. However, it does not stop me from doing anything.

4: Severe: Fatigue stops me from doing things or being with people.

SCORE	

Part II: Motor Aspects of Experiences of Daily Living (M-EDL)

2.1 SPEECH

Over the past week, have you had problems with your speech?

0: Normal: Not at all (no problems).

1: Slight: My speech is soft, slurred or uneven, but it does not cause others to ask me to repeat myself.

2: Mild: My speech causes people to ask me to occasionally repeat myself, but not everyday.

3: Moderate: My speech is unclear enough that others ask me to repeat myself every day even though most of my speech is understood.

4: Severe: Most or all of my speech cannot be understood.

SCORE	

2.2 SALIVA AND DROOLING

Over the past week, have you usually had too much saliva during when you are awake or when you sleep?

0: Normal: Not at all (no problems).

1: Slight: I have too much saliva, but do not drool.

2: Mild: I have some drooling during sleep, but none when I am awake.

3: Moderate: I have some drooling when I am awake, but I usually do not need tissues or a handkerchief.

4: Severe: I have so much drooling that I regularly need to use tissues or a handkerchief to protect my clothes.

SCORE	

2.3 CHEWING AND SWALLOWING

Over the past week, have you usually had problems swallowing pills or eating meals? Do you need your pills cut or crushed or your meals to be made soft, chopped or blended to avoid choking?

0: Normal: No problems.

1: Slight: I am aware of slowness in my chewing or increased effort at swallowing, but I do not choke or need to have my food specially prepared.

2: Mild: I need to have my pills cut or my food specially prepared because of chewing or swallowing problems, but I have not choked over the past week.

3: Moderate: I choked at least once in the past week.

4: Severe: Because of chewing and swallowing problems, I need a feeding tube.

SCORE	

2.4 EATING TASKS

Over the past week, have you usually had troubles handling your food and using eating utensils? For example, do you have trouble handling finger foods or using forks, knives, spoons, chopsticks?

0: Normal: Not at all (no problems).

1: Slight: I am slow, but I do not need any help handling my food and have not had food spills while eating.

2: Mild: I am slow with my eating and have occasional food spills. I may need help with a few tasks such as cutting meat.

3: Moderate: I need help with many eating tasks but can manage some alone.

4: Severe: I need help for most or all eating tasks.

SCORE	

2.5 DRESSING

Over the past week, have you usually had problems dressing? For example, are you slow or do you need help with buttoning, using zippers, putting on or taking off your clothes or jewelry?

0: Normal: Not at all (no problems).

1: Slight: I am slow but I do not need help.

2: Mild: I am slow and need help for a few dressing tasks (buttons, bracelets).

3: Moderate: I need help for many dressing tasks.

4: Severe: I need help for most or all dressing tasks.

SCORE	

2.6 HYGIENE

Over the past week, have you usually been slow or do you need help with washing, bathing, shaving, brushing teeth, combing your hair or with other personal hygiene?

0: Normal: Not at all (no problems).

1: Slight: I am slow but I do not need any help.

2: Mild: I need someone else to help me with some hygiene tasks.

3: Moderate: I need help for many hygiene tasks.

4: Severe: I need help for most or all of my hygiene tasks.

SCORE	

2.7 HANDWRITING

Over the past week, have people usually had trouble reading your handwriting?

0: Normal: Not at all (no problems).

1: Slight: My writing is slow, clumsy or uneven, but all words are clear.

2: Mild: Some words are unclear and difficult to read.

3: Moderate: Many words are unclear and difficult to read.

4: Severe: Most or all words cannot be read.

SCORE	

2.8 DOING HOBBIES AND OTHER ACTIVITIES

Over the past week, have you usually had trouble doing your hobbies or other things that you like to do?

0: Normal: Not at all (no problems).

1: Slight: I am a bit slow but do these activities easily.

2: Mild: I have some difficulty doing these activities.

3: Moderate: I have major problems doing these activities, but still do most.

4: Severe: I am unable to do most or all of these activities.

SCORE	

2.9 TURNING IN BED

Over the past week, do you usually have trouble turning over in bed?

0: Normal: Not at all (no problems).

1: Slight: I have a bit of trouble turning, but I do not need any help.

2: Mild I have a lot of trouble turning and need occasional help from someone else.

3: Moderate: To turn over I often need help from someone else.

4: Severe: I am unable to turn over without help from someone else.

SCORE	

2.10 TREMOR

Over the past week, have you usually had shaking or tremor?

0: Normal: Not at all. I have no shaking or tremor.

1: Slight: Shaking or tremor occurs but does not cause problems with any activities.

2: Mild: Shaking or tremor causes problems with only a few activities.

3: Moderate: Shaking or tremor causes problems with many of my daily activities.

4: Severe: Shaking or tremor causes problems with most or all activities.

SCORE	

2.11 GETTING OUT OF BED, A CAR, OR A DEEP CHAIR

Over the past week, have you usually had trouble getting out of bed, a car seat, or a deep chair?

0: Normal: Not at all (no problems).

1: Slight: I am slow or awkward, but I usually can do it on my first try.

2: Mild: I need more than one try to get up or need occasional help.

3: Moderate: I sometimes need help to get up, but most times I can still do it on my own.

4: Severe: I need help most or all of the time.

SCORE	

2.12 WALKING AND BALANCE

Over the past week, have you usually had problems with balance and walking?

0: Normal: Not at all (no problems).

1: Slight: I am slightly slow or may drag a leg. I never use a walking aid.

2: Mild: I occasionally use a walking aid, but I do not need any help from another person.

3: Moderate: I usually use a walking aid (cane, walker) to walk safely without falling. However, I do not usually need the support of another person.

4: Severe: I usually use the support of another person to walk safely without falling.

SCORE	

2.13 FREEZING

Over the past week, on your usual day when walking, do you suddenly stop or freeze as if your feet are stuck to the floor.

0: Normal: Not at all (no problems).

1: Slight: I briefly freeze but I can easily start walking again. I do not need help from someone else or a walking aid (cane or walker) because of freezing.

2: Mild: I freeze and have trouble starting to walk again, but I do not need someone's help or a walking aid (cane or walker) because of freezing.

3: Moderate: When I freeze I have a lot of trouble starting to walk again and, because of freezing, I sometimes need to use a walking aid or need someone else's help.

4: Severe: Because of freezing, most or all of the time, I need to use a walking aid or someone's help.

SCORE	

This completes the questionnaire. We may have asked about problems you do not even have, and may have mentioned problems that you may never develop at all. Not all patients develop all these problems, but because they can occur, it is important to ask all the questions to every patient. Thank you for your time and attention in completing this questionnaire.

Part III: Motor Examination

Overview: This portion of the scale assesses the motor signs of PD. In administering Part III of the MDS-UPDRS the examiner should comply with the following guidelines:

At the top of the form, mark whether the patient is on medication for treating the symptoms of Parkinson's disease and, if on levodopa, the time since the last dose.

Also, if the patient is receiving medication for treating the symptoms of Parkinson's Disease, mark the patient's clinical state using the following definitions:

ON is the typical functional state when patients are receiving medication and have a good response.

OFF is the typical functional state when patients have a poor response in spite of taking medications.

The investigator should "rate what you see". Admittedly, concurrent medical problems such as stroke, paralysis, arthritis, contracture, and orthopedic problems such as hip or knee replacement and scoliosis may interfere with individual items in the motor examination. In situations where it is absolutely impossible to test (e.g., amputations, plegia, limb in a cast), use the notation "UR" for Unable to

Rate. Otherwise, rate the performance of each task as the patient performs in the context of co-morbidities.

All items must have an integer rating (no half points, no missing ratings).

Specific instructions are provided for the testing of each item. These should be followed in all instances. The investigator demonstrates while describing tasks the patient is to perform and rates function immediately thereafter. For Global Spontaneous Movement and Rest Tremor items (3.14 and 3.17), these items have been placed purposefully at the end of the scale because clinical information pertinent to the score will be obtained throughout the entire examination.

At the end of the rating, indicate if dyskinesia (chorea or dystonia) was present at the time of the examination, and if so, whether these movements interfered with the motor examination.

3a Is the patient on medication for treating the symptoms of Parkinson's Disease? ☐ No ☐ Yes

3b If the patient is receiving medication for treating the symptoms of Parkinson's Disease, mark the patient's clinical state using the following definitions:

☐ ON: On is the typical functional state when patients are receiving medication and have a good response.

☐ OFF: Off is the typical functional state when patients have a poor response in spite of taking medications.

3c Is the patient on Levodopa ? ☐ No ☐ Yes

3.C1 If yes, minutes since last levodopa dose: _____

3.1 SPEECH

Instructions to examiner: Listen to the patient's free-flowing speech and engage in conversation if necessary. Suggested topics: ask about the patient's work, hobbies, exercise, or how he got to the doctor's office. Evaluate volume, modulation (prosody) and clarity, including slurring, palilalia (repetition of syllables) and tachyphemia (rapid speech, running syllables together).

0: Normal: No speech problems.

1: Slight: Loss of modulation, diction or volume, but still all words easy to understand.

2: Mild: Loss of modulation, diction, or volume, with a few words unclear, but the overall sentences easy to follow.

3: Moderate: Speech is difficult to understand to the point that some, but not most, sentences are poorly understood.

4: Severe: Most speech is difficult to understand or unintelligible.

SCORE	

3.2 FACIAL EXPRESSION

Instructions to examiner: Observe the patient sitting at rest for 10 seconds, without talking and also while talking. Observe eye-blink frequency, masked facies or loss of facial expression, spontaneous smiling and parting of lips.

0: Normal: Normal facial expression.

1: Slight: Minimal masked facies manifested only by decreased frequency of blinking.

2: Mild: In addition to decreased eye-blink frequency, Masked facies present in the lower face as well, namely fewer movements around the mouth, such as less spontaneous smiling, but lips not parted.

3: Moderate: Masked facies with lips parted some of the time when the mouth is at rest.

4: Severe: Masked facies with lips parted most of the time when the mouth is at rest.

SCORE	

3.3 RIGIDITY

Instructions to examiner: 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. First, test without an activation maneuver. Test and rate neck and each limb separately. For arms, test the wrist and elbow joints simultaneously. For legs, test the hip and knee joints simultaneously. If no rigidity is detected, use an activation maneuver such as tapping fingers, fist opening/closing, or heel tapping in a limb not being tested. Explain to the patient to go as limp as possible as you test for rigidity.

0: Normal: No rigidity.

1: Slight: Rigidity only detected with activation maneuver.

2: Mild: Rigidity detected without the activation maneuver, but full range of motion is easily achieved.

3: Moderate: Rigidity detected without the activation maneuver; full range of motion is achieved with effort.

4: Severe: Rigidity detected without the activation maneuver and full range of motion not achieved.

SCORE	neck	RUE	LUE	RLE	LLE

3.4 FINGER TAPPING

Instructions to examiner: Each hand is tested separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to tap the index finger on the thumb 10 times as quickly AND as big as possible. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problems.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the tapping movement; b) slight slowing; c) the amplitude decrements near the end of the 10 taps.

2: Mild: Any of the following: a) 3 to 5 interruptions during tapping; b) mild slowing; c) the amplitude decrements midway in the 10-tap sequence.

3: Moderate: Any of the following: a) more than 5 interruptions during tapping or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing; c) the amplitude decrements starting after the 1st tap.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

SCORE	R	L

3.5 HAND MOVEMENTS

Instructions to examiner: Test each hand separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to make a tight fist with the arm bent at the elbow so that the palm faces the examiner. Have the patient open the hand 10 times as fully AND as quickly as possible. If the patient fails to make a tight fist or to open the hand fully, remind him/her to do so. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problem.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the movement; b) slight slowing; c) the amplitude decrements near the end of the task.

2: Mild: Any of the following: a) 3 to 5 interruptions during the movements; b) mild slowing; c) the amplitude decrements midway in the task.

3: Moderate: Any of the following: a) more than 5 interruptions during the movement or at least one longer arrest (freeze) in ongoing movement; b)

moderate slowing; c) the amplitude decrements starting after the 1st open-and-close sequence.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

SCORE	R	L

3.6 PRONATION-SUPINATION MOVEMENTS OF HANDS

Instructions to examiner: Test each hand separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to extend the arm out in front of his/her body with the palms down; then to turn the palm up and down alternately 10 times as fast and as fully as possible. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problems.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the movement; b) slight slowing; c) the amplitude decrements near the end of the sequence.

2: Mild: Any of the following: a) 3 to 5 interruptions during the movements; b) mild slowing; c) the amplitude decrements midway in the sequence.

3: Moderate: Any of the following: a) more than 5 interruptions during the movement or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing c) the amplitude decrements starting after the 1st supination-pronation sequence.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

3.7 TOE TAPPING

Instructions to examiner: Have the patient sit in a straight-backed chair with arms, both feet on the floor. Test each foot separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to place the heel on the ground in a comfortable position and then tap the toes 10 times as big and as fast as possible. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problem.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the tapping movement; b) slight slowing; c) amplitude decrements near the end of the ten taps.

2: Mild: Any of the following: a) 3 to 5 interruptions during the tapping movements; b) mild slowing; c) amplitude decrements midway in the task.

3: Moderate: Any of the following: a) more than 5 interruptions during the tapping movements or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing; c) amplitude decrements after the first tap.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

SCORE	R	L

3.8 LEG AGILITY

Instructions to examiner: Have the patient sit in a straight-backed chair with arms. The patient should have both feet comfortably on the floor. Test each leg separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to place the foot on the ground in a comfortable position and then raise and stomp the foot on the ground 10 times as high and as fast as possible. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problems.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the movement; b) slight slowing; c) amplitude decrements near the end of the task.

2: Mild: Any of the following: a) 3 to 5 interruptions during the movements; b) mild slowness; c) amplitude decrements midway in the task.

3: Moderate: Any of the following: a) more than 5 interruptions during the movement or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing in speed; c) amplitude decrements after the first tap.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

SCORE	R	L

3.9 ARISING FROM CHAIR

Instructions to examiner: Have the patient sit in a straight-backed chair with arms, with both feet on the floor and sitting back in the chair (if the patient is not too short). Ask the patient to cross his/her arms across the chest and then to stand up. If the patient is not successful, repeat this attempt a maximum up to two more times. If still unsuccessful, allow the patient to move forward in the chair to arise with arms folded across the chest. Allow only one attempt in this situation. If unsuccessful, allow the patient to push off using his/her hands on the arms of the chair. Allow a maximum of three trials of pushing off. If still not successful, assist the patient to arise. After the patient stands up, observe the posture for item 3.13.

0: Normal: No problems. Able to arise quickly without hesitation.

1: Slight: Arising is slower than normal; or may need more than one attempt; or may need to move forward in the chair to arise. No need to use the arms of the chair.

2: Mild: Pushes self up from arms of chair without difficulty.

3: Moderate: Needs to push off, but tends to fall back; or may have to try more than one time using arms of chair, but can get up without help.

4: Severe: Unable to arise without help.

SCORE	

3.10 GAIT

Instructions to examiner: Testing gait is best performed by having the patient walking away from and towards the examiner so that both right and left sides of the body can be easily observed simultaneously. The patient should walk at least 10 meters (30 feet), then turn around and return to the examiner. This item measures multiple behaviors: stride amplitude, stride speed, height of foot lift, heel strike during walking, turning, and arm swing, but not freezing. Assess also for “freezing of gait” (next item 3.11) while patient is walking. Observe posture for item 3.13.

0: Normal: No problems.

1: Slight: Independent walking with minor gait impairment.

2: Mild: Independent walking but with substantial gait impairment.

3: Moderate: Requires an assistance device for safe walking (walking stick, walker) but not a person.

4: Severe: Cannot walk at all or only with another person’s assistance.

SCORE	

3.11 FREEZING OF GAIT

Instructions to examiner: While assessing gait, also assess for the presence of any gait freezing episodes. Observe for start hesitation and stuttering movements especially when turning and reaching the end of the task. To the extent that safety permits, patients may NOT use sensory tricks during the assessment.

0: Normal: No freezing.

1: Slight: Freezes on starting, turning or walking through doorway with a single halt during any of these events, but then continues smoothly without freezing during straight walking.

2: Mild: Freezes on starting, turning or walking through doorway with more than one halt during any of these activities, but continues smoothly without freezing during straight walking.

3: Moderate: Freezes once during straight walking.

4: Severe: Freezes multiple times during straight walking.

SCORE	

3.12 POSTURAL STABILITY

Instructions to examiner: The test examines the response to sudden body displacement produced by a quick, forceful pull on the shoulders while the patient is standing erect with eyes open and feet comfortably apart and parallel to each other. Test retropulsion. Stand behind the patient and instruct the patient on what is about to happen. Explain that s/he is allowed to take a step backwards to avoid falling. There should be a solid wall behind the examiner, at least 1–2 meters away to allow for the observation of the number of retropulsive steps. The first pull is an instructional demonstration and is purposely milder and not rated. The second time the shoulders are pulled briskly and forcefully towards the examiner with enough force to displace the center of gravity so that patient MUST take a step backwards. The examiner needs to be ready to catch the patient, but must stand sufficiently back so as to allow enough room for the patient to take several steps to recover independently. Do not allow the patient to flex the body abnormally forward in anticipation of the pull. Observe for the number of steps backwards or falling. Up to and including two steps for recovery is considered normal, so abnormal ratings begin with three steps. If the patient fails to understand the test, the examiner can repeat the test so that the rating is based on an assessment that the examiner feels reflects the patient's limitations rather than misunderstanding or lack of preparedness. Observe standing posture for item 3.13

0: Normal: No problems: Recovers with one or two steps.

1: Slight: 3–5 steps, but subject recovers unaided.

2: Mild: More than 5 steps, but subject recovers unaided.

3: Moderate: Stands safely, but with absence of postural response; falls if not caught by examiner.

4: Severe: Very unstable, tends to lose balance spontaneously or with just a gentle pull on the shoulders.

SCORE	

3.13 POSTURE

Instructions to examiner: Posture is assessed with the patient standing erect after arising from a chair, during walking, and while being tested for postural reflexes. If you notice poor posture, tell the patient to stand up straight and see if the posture improves (see option 2 below). Rate the worst posture seen in these three observation points. Observe for flexion and side-to-side leaning.

0: Normal: No problems.

1: Slight: Not quite erect, but posture could be normal for older person.

2: Mild: Definite flexion, scoliosis or leaning to one side, but patient can correct posture to normal posture when asked to do so.

3: Moderate: Stooped posture, scoliosis or leaning to one side that cannot be corrected volitionally to a normal posture by the patient.

4: Severe: Flexion, scoliosis or leaning with extreme abnormality of posture.

SCORE	

3.14 GLOBAL SPONTANEITY OF MOVEMENT (BODY BRADYKINESIA)

Instructions to examiner: This global rating combines all observations on slowness, hesitancy, and small amplitude and poverty of movement in general, including a reduction of gesturing and of crossing the legs. This assessment is based on the examiner's global impression after observing for spontaneous gestures while sitting, and the nature of arising and walking.

0: Normal: No problems.

1: Slight: Slight global slowness and poverty of spontaneous movements.

2: Mild: Mild global slowness and poverty of spontaneous movements.

3: Moderate: Moderate global slowness and poverty of spontaneous movements.

4: Severe: Severe global slowness and poverty of spontaneous movements.

SCORE	

3.15 POSTURAL TREMOR OF THE HANDS

Instructions to examiner: All tremor, including re-emergent rest tremor, that is present in this posture is to be included in this rating. Rate each hand separately. Rate the highest amplitude seen. Instruct the patient to stretch the arms out in front of the body with palms down. The wrist should be straight and the fingers comfortably separated so that they do not touch each other. Observe this posture for 10 seconds.

0: Normal: No tremor.

1: Slight: Tremor is present but less than 1 cm in amplitude.

2: Mild: Tremor is at least 1 but less than 3 cm in amplitude.

3: Moderate: Tremor is at least 3 but less than 10 cm in amplitude.

4: Severe: Tremor is at least 10 cm in amplitude.

SCORE	R	L

3.16 KINETIC TREMOR OF THE HANDS

Instructions to examiner: This is tested by the finger-to-nose maneuver. With the arm starting from the outstretched position, have the patient perform at least three finger-to-nose maneuvers with each hand reaching as far as possible to touch the examiner's finger. The finger-to-nose maneuver should be performed slowly enough not to hide any tremor that could occur with very fast arm movements. Repeat with the other hand, rating each hand separately. The tremor can be present throughout the movement or as the tremor reaches either target (nose or finger). Rate the highest amplitude seen.

0: Normal: No tremor.

1: Slight: Tremor is present but less than 1 cm in amplitude.

2: Mild: Tremor is at least 1 but less than 3 cm in amplitude.

3: Moderate: Tremor is at least 3 but less than 10 cm in amplitude.

4: Severe: Tremor is at least 10 cm in amplitude.

SCORE	R	L

3.17 REST TREMOR AMPLITUDE

Instructions to examiner: This and the next item have been placed purposefully at the end of the examination to allow the rater to gather observations on rest tremor that may appear at any time during the exam, including when quietly sitting, during walking and during activities when some body parts are moving but others are at rest. Score the maximum amplitude that is seen at any time as the final score. Rate only the amplitude and not the persistence or the intermittency of the tremor.

As part of this rating, the patient should sit quietly in a chair with the hands placed on the arms of the chair (not in the lap) and the feet comfortably supported on the floor for 10 seconds with no other directives. Rest tremor is assessed separately for all four limbs and also for the lip/jaw. Rate only the maximum amplitude that is seen at any time as the final rating.

Extremity ratings

0: Normal: No tremor.

1: Slight: ≤ 1 cm in maximal amplitude.

2: Mild: > 1 cm but < 3 cm in maximal amplitude. 3: Moderate: 3–10 cm in maximal amplitude.

4: Severe: > 10 cm in maximal amplitude.

Lip/Jaw ratings

0: Normal: No tremor.

1: Slight: ≤ 1 cm in maximal amplitude.

2: Mild: > 1 cm but ≤ 2 cm in maximal amplitude.

3: Moderate: > 2 cm but ≤ 3 cm in maximal amplitude.

4: Severe: > 3 cm in maximal amplitude.

SCORE	Lip/Jaw	RUE	LUE	RLE	LLE

3.18 CONSTANCY OF REST TREMOR

Instructions to examiner: This item receives one rating for all rest tremor and focuses on the constancy of rest tremor during the examination period when different body parts are variously at rest. It is rated purposefully at the end of the examination so that several minutes of information can be coalesced into the rating.

0: Normal: No tremor.

1: Slight: Tremor at rest is present ≤ 25% of the entire examination period.

2: Mild: Tremor at rest is present 26–50% of the entire examination period.

3: Moderate: Tremor at rest is present 51–75% of the entire examination period.

4: Severe: Tremor at rest is present > 75% of the entire examination period.

SCORE	

DYSKINESIA IMPACT ON PART III RATINGS

A. Were dyskinesias (chorea or dystonia) present during examination?
☐ NO ☐ YES

B. If yes, did these movements interfere with your ratings?
☐ NO ☐ YES

HOEHN AND YAHR STAGE

0: Asymptomatic.

1: Unilateral involvement only.

2: Bilateral involvement without impairment of balance.

3: Mild to moderate involvement; some postural instability but physically independent; needs assistance to recover from pull test.

4: Severe disability; still able to walk or stand unassisted. 5: Wheelchair bound or bedridden unless aided.

SCORE	

Part IV: Motor Complications

Overview and Instructions: In this section, the rater uses historical and objective information to assess two motor complications, dyskinesias and motor fluctuations that include OFF-state dystonia. Use all information from patient, caregiver, and the examination to answer the six questions that summarize function over the past week including today. As in the other sections, rate using only integers (no half points allowed) and leave no missing ratings. If the item cannot be rated, place UR for Unable to Rate. You will need to choose some answers based on percentages, and therefore you will need to establish how many hours generally are awake hours and use this figure as the denominator for "OFF" time and dyskinesias. For "OFF dystonia", the total "Off" time will be the denominator.

Operational definitions for examiner's use.

Dyskinesias: Involuntary random movements

Words that patients often recognize for dyskinesias include "irregular jerking", "wiggling", "twitching". **It is essential to stress to the patient the difference between dyskinesias and tremor, a common error when patients are assessing dyskinesias.**

Dystonia: contorted posture, often with a twisting component:

Words that patients often recognize for dystonia include “spasms”, “cramps”, “posture”.

Motor fluctuation: Variable response to medication:

Words that patients often recognize for motor fluctuation include “wearing out”, “wearing off”, “roller-coaster effect”, “on-off”, “uneven medication effects”.

OFF: Typical functional state when patients have a poor response in spite of taking mediation or the typical functional response when patients are on NO treatment for parkinsonism. Words that patients often recognize include “low time”, “bad time”, “shaking time”, “slow time”, “time when my medications don’t work.”

ON: Typical functional state when patients are receiving medication and have a good response: Words that patients often recognize include “good time”, “walking time”, “time when my medications work.”

A. DYSKINESIAS [exclusive of OFF-state dystonia]

4.1 TIME SPENT WITH DYSKINESIAS

Instructions to examiner: Determine the hours in the usual waking day and then the hours of dyskinesias. Calculate the percentage. If the patient has dyskinesias in the office, you can point them out as a reference to ensure that patients and caregivers understand what they are rating. You may also use your own acting skills to enact the dyskinetic movements you have seen in the patient before or show them dyskinetic movements typical of other patients. Exclude from this question early morning and nighttime painful dystonia.

Instructions to patient [and caregiver]: Over the past week, how many hours do you usually sleep on a daily basis, including nighttime sleep and daytime napping? Alright, if you sleep ____ hrs, you are awake ____ hrs. Out of those awake hours, how many hours in total do you have wiggling, twitching or jerking movements? **Do not count the times when you have tremor, which is a regular back and forth shaking or times when you have painful foot cramps or spasms in the early morning or at nighttime. I will ask about those later.** Concentrate only on these types of wiggling, jerking and irregular movements. Add up all the time during the waking day when these usually occur. How many hours ____ (use this number for your calculations).

0: Normal: No dyskinesias.

1: Slight: ≤ 25% of waking day.

2: Mild: 26–50% of waking day.

3: Moderate: 51–75% of waking day.

4: Severe: > 75% of waking day.

SCORE	

1. Total Hours Awake: _____

2. Total Hours with Dyskinesia: _____

3. % Dyskinesia = ((2/1)*100): _____

4.2 FUNCTIONAL IMPACT OF DYSKINESIAS

Instructions to examiner: Determine the degree to which dyskinesias impact on the patient's daily function in terms of activities and social interactions. Use the patient's and caregiver's response to your question and your own observations during the office visit to arrive at the best answer.

Instructions to patient [and caregiver]: Over the past week, did you usually have trouble doing things or being with people when these jerking movements occurred? Did they stop you from doing things or from being with people?

0: Normal: No dyskinesias or no impact by dyskinesias on activities or social interactions.

1: Slight: Dyskinesias impact on a few activities, but the patient usually performs all activities and participates in all social interactions during dyskinetic periods.

2: Mild: Dyskinesias impact on many activities, but the patient usually performs all activities and participates in all social interactions during dyskinetic periods.

3: Moderate: Dyskinesias impact on activities to the point that the patient usually does not perform some activities or does not usually participate in some social activities during dyskinetic episodes.

4: Severe: Dyskinesias impact on function to the point that the patient usually does not perform most activities or participate in most social interactions during dyskinetic episodes.

SCORE	

B. MOTOR FLUCTUATIONS

4.3 TIME SPENT IN THE OFF STATE

Instructions to examiner: Use the number of waking hours derived from 4.1 and determine the hours spent in the "OFF" state. Calculate the percentage. If the patient has an OFF period in the office, you can point to this state as a reference. You may also use your knowledge of the patient to describe a typical OFF period. Additionally you may use your own acting skills to enact an OFF period you have seen in the patient before or show them OFF function typical of other patients. Mark down the typical number of OFF hours, because you will need this number for completing 4.6.

Instructions to patient [and caregiver]: Some patients with Parkinson's disease have a good effect from their medications throughout their awake hours and we call that "ON" time. Other patients take their

medications but still have some hours of low time, bad time, slow time or shaking time. Doctors call these low periods "OFF" time. Over the past week, you told me before that you are general awake hrs each day. Out of these awake hours, how many hours in total do you usually have this type of low level or OFF function (use this number for your calculations).

0: Normal: No OFF time.

1: Slight: ≤ 25% of waking day.

2: Mild: 26–50% of waking day.

3: Moderate: 51–75% of waking day.

4: Severe: > 75% of waking day.

SCORE	

1. **Total Hours Awake:** _____
2. **Total Hours OFF:** _____
3. **% OFF = ((2/1)*100):** _____

4.4 FUNCTIONAL IMPACT OF FLUCTUATIONS

Instructions to examiner: Determine the degree to which motor fluctuations impact on the patient's daily function in terms of activities and social interactions. This question concentrates on the difference between the ON state and the OFF state.

If the patient has no OFF time, the rating must be 0, but if patients have very mild fluctuations, it is still possible to be rated 0 on this item if no impact on activities occurs. Use the patient's and caregiver's response to your question and your own observations during the office visit to arrive at the best answer.

Instructions to patient [and caregiver]: Think about when those low or "OFF" periods have occurred over the past week. Do you usually have more problems doing things or being with people than compared to the rest of the day when you feel your medications working? Are there some things you usually do during a good period that you have trouble with or stop doing during a low period?

0: Normal: No fluctuations or No impact by fluctuations on performance of activities or social interactions.

1: Slight: Fluctuations impact on a few activities, but during OFF, the patient usually performs all activities and participates in all social interactions that typically occur during the ON state.

2: Mild: Fluctuations impact many activities, but during OFF, the patient still usually performs all activities and participates in all social interactions that typically occur during the ON state.

3: Moderate: Fluctuations impact on the performance of activities during OFF to the point that the patient usually does not perform some activities or participate in some social interactions that are performed during ON periods.

4: Severe: Fluctuations impact on function to the point that, during OFF, the patient usually does not perform most activities or participate in most social interactions that are performed during ON periods.

SCORE	

4.5 COMPLEXITY OF MOTOR FLUCTUATIONS

Instructions to examiner: Determine the usual predictability of OFF function whether due to dose, time of day, food intake or other factors. Use the information provided by the patients and caregiver and supplement with your own observations. You will ask if the patient can count on them always coming at a special time, mostly coming at a special time (in which case you will probe further to separate slight from mild), only sometimes coming at a special time or are they totally unpredictable? Narrowing down the percentage will allow you to find the correct answer.

Instructions to patient [and caregiver]: For some patients, the low or "OFF" periods happen at certain times during day or when they do activities like eating or

exercising. Over the past week, do you usually know when your low periods will occur? In other words, do your low periods always come at a certain time? Do they mostly come at a certain time? Do they only sometimes come at a certain time? Are your low periods totally unpredictable?"

0: Normal: No motor fluctuations.

1: Slight: OFF times are predictable all or almost all of the time (> 75%).

2: Mild: OFF times are predictable most of the time (51–75%).

3: Moderate: OFF times are predictable some of the time (26–50%).

4: Severe: OFF episodes are rarely predictable (< 25%).

SCORE	

C. "OFF" DYSTONIA

4.6 PAINFUL OFF-STATE DYSTONIA

Instructions to examiner: For patients who have motor fluctuations, determine what proportion of the OFF episodes usually includes painful dystonia? You have already determined the number of hours of "OFF" time (4.3). Of these hours, determine how many are associated with dystonia and calculate the percentage. If there is no OFF time, mark 0.

Instructions to patient [and caregiver]: *In one of the questions I asked earlier, you said you generally have _____ hours of low or "OFF" time when your Parkinson's disease is under poor control. During these low or "OFF" periods, do you usually have painful cramps or spasms? Out of the total _____ hrs of this low time, if you add up all the time in a day when these painful cramps come, how many hours would this make?*

0: Normal: No dystonia OR NO OFF TIME.

1: Slight: ≤ 25% of time in OFF state.

2: Mild: 26–50% of time in OFF state.

3: Moderate: 51–75% of time in OFF state.

4: Severe: > 75% of time in OFF state.

SCORE	

1. **Total Hours Off:** _____
2. **Total Off Hours w/Dystonia**: _____
3. **% Off Dystonia = ((2/1)*100)**: _____

Summary statement to patient: READ TO PATIENT

This completes my rating of your Parkinson's disease. I know the questions and tasks have taken several minutes, but I wanted to be complete and cover all possibilities. In doing so, I may have asked about problems you do not even have, and I may have mentioned problems that you may never develop at all. Not all patients develop all these problems, but because they can occur, it is important to ask all the questions to every patient. Thank you for your time and attention in completing this scale with me.

MDS UPDRS Score Sheet

1.A	Source of information	☐ Patient ☐ Caregiver ☐ Patient + Caregiver
	PART I	
1.1	Cognitive impairment	
1.2	Hallucinations and psychosis	
1.3	Depressed mood	
1.4	Anxious mood	
1.5	Apathy	
1.6	Features of DDS	
1.6a	Who is filling out questionnaire	☐ Patient ☐ Caregiver ☐ Patient + Caregiver
1.7	Sleep problems	
1.8	Daytime sleepiness	
1.9	Pain and other sensations	
1.10	Urinary problems	
1.11	Constipation problems	
1.12	Light headedness on standing	
1.13	Fatigue	
	PART II	
2.1	Speech	
2.2	Saliva and drooling	
2.3	Chewing and swallowing	
2.4	Eating tasks	
2.5	Dressing	
2.6	Hygiene	
2.7	Handwriting	
2.8	Doing hobbies and other activities	
2.9	Turning in bed	
2.10	Tremor	

2.11	Getting out of bed	
2.12	Walking and balance	
2.13	Freezing	
3a	Is the patient on medication?	☐ No ☐ Yes
3b	Patient's clinical state	☐ Off ☐ On
3c	Is the patient on Levodopa?	☐ No ☐ Yes
3.C1	If yes, minutes since last dose:	
	PART III	
3.1	Speech	
3.2	Facial expression	
3.3a	Rigidity– Neck	
3.3b	Rigidity– Neck	
3.3c	Rigidity– LUE	
3.3e	Rigidity– LLE	
3.4a	Finger tapping– Right hand	
3.4b	Finger tapping– Left hand	
3.5a	Hand movements– Right hand	
3.5b	Hand movements– Left hand	
3.6a	Pronation- supination movements– Right hand	
3.6b	Pronation- supination movements– Left hand	
3.7a	Toe tapping– Right foot	
3.7b	Toe tapping– Left foot	
3.8a	Leg agility– Right leg	
3.8b	Leg agility– Left leg	
3.9	Arising from chair	
3.10	Gait	
3.11	Freezing of gait	
3.12	Postural stability	
3.14	Global spontaneity of movement	
3.15a	Postural tremor– Right hand	
3.15b	Postural tremor– Left hand	

3.16a	Kinetic tremor– Right hand	
3.16b	Kinetic tremor– Left hand	
3.17a	Rest tremor amplitude– RUE	
3.17b	Rest tremor amplitude– LUE	
3.17c	Rest tremor amplitude– RLE	
3.17d	Rest tremor amplitude– LLE	
3.17e	Rest tremor amplitude– Lip/jaw	
3.18	Constancy of rest	
	Were dyskinesias present?	☐ No ☐ Yes
	Did these movements interfere with ratings?	☐ No ☐ Yes
	Hoehn and Yahr Stage	
	PART IV	
4.1	Time spent with dyskinesias	
4.2	Functional impact of dyskinesias	
4.4	Functional impact of fluctuations	
4.5	Complexity of motor fluctuations	
4.6	Painful OFF-state dystonia	

References

Goetz, C. G., Tilley, B. C., Shaftman, S. R., Stebbins, G. T., Fahn, S., Martinez-Martin, P., Poewe, W., Sampaio, C., Stern, M. B., Dodel, R., Dubois, B., Holloway, R., Jankovic, J., Kulisevsky, J., Lang, A. E., Lees, A., Leurgans, S., LeWitt, P. A., Nyenhuis, D., Olanow, C. W., Rascol, O., Schrag, A., Teresi, J. A., van Hilten, J. J. and LaPelle, N. (2008), Movement Disorder Society-sponsored revision of the Unified Parkinson's Disease Rating Scale (MDS-UPDRS): Scale presentation and clinimetric testing results. Mov. Disord., 23: 2129-2170.

Schwab & England Activities of Daily Living scale (S/E-ADLS)

100%	Completely independent. Able to do all chores w/o slowness, difficulty, or impairment. Essentially normal. Unaware of any difficulty.
90%	Completely independent. Able to do all chores with some degree of slowness, difficulty and impairment. May take twice as long. Beginning to be aware of difficulty.
80%	Completely independent in most chores. Takes twice as long. Conscious of difficulty and slowing.
70%	Not completely independent. More difficulty with some chores. X 3-4 as long in some. May spend a large part of the day with chores.
60%	Some dependency. Can do most chores, but exceedingly slowly and with much effort. Errors, some impossible.
50%	More dependent. Help with 1/2 of chores. Difficulty with everything.
40%	Very dependant. Can assist with all chores but few alone.
30%	With effort, now and then does a few chores alone or begins alone. Much help needed.
20%	Nothing alone. Can do some slight help with some chores. Severe invalid.
10%	Totally dependant, helpless. Complete invalid.
0%	Vegetative functions such as swallowing, bladder and bowel function are not functioning. Bedridden.

References

Schwab, R.S.; England, A.C. (1968-05-20). Projection techniques for evaluating surgery in Parkinson's Disease. Third Symposium on Parkinson's Disease, Royal College of Surgeons in Edinburgh. E. & S. Livingstone Ltd. (1969).

Modified Hoehn and Yahr staging (...)

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

References:

M. M. Hoehn, M. D. Yahr: Parkinsonism: onset, progression and mortality. In: Neurology. 17, 1967, S. 427–442, PMID 6067254, doi:10.1002/mds.20213

Clinical Global Impression (CGI)

Rating	Clinician-rated
Administration time	Varies with familiarity with patient
Main purpose	To provide a global rating of illness severity, improvement and response to treatment
Population	Adults

Commentary

Amongst the most widely used of extant brief assessment tools in psychiatry, the CGI is a 3-item observer-rated scale that measures illness severity (CGIS), global improvement or change (CGIC) and therapeutic response. The illness severity and improvement sections of the instrument are used more frequently than the therapeutic response section in both clinical and research settings. The Early Clinical Drug Evaluation Program (ECDEU) ver- sion of the CGI (reproduced here) is the most widely used format, and asks that the clinician rate the patient relative to their past experience with other patients with the same diagnosis, with or without collateral information. Several alternative versions of the CGI have been developed, however, such as the FDA Clinicians' Interview-Based Impression of Change (CIBIC), which uses only informa- tion collected during the interview, not collateral. The CGI has proved to be a robust measure of efficacy in many clinical drug trials, and is easy and quick to admin- ister, provided that the clinician knows the patient well.

Scoring

The CGI is rated on a 7-point scale, with the severity of illness scale using a range of responses from 1 (normal) through to 7 (amongst the most severely ill patients).

CGI-C scores range from 1 (very much improved) through to 7 (very much worse). Treatment response ratings should take account of both therapeutic efficacy and treatment-related adverse events and range from 0 (marked improvement and no side-effects) and 4 (unchanged or worse and side-effects outweigh the therapeutic effects). Each component of the CGI is rated sepa- rately; the instrument does not yield a global score.

Versions

CGI for bipolar disorder (CGI-BD), FDA Clinicians' Interview-Based Impression of Change (CIBIC), Clinicians' Interview-Based Impression of Change-Plus (CIBIC+), NYU CIBIC+, Parke-Davis Pharmaceuticals Clinical Interview-Based Impression (CIBI); the CGI has been translated into most languages.

Additional references

Leon AC, Shear MK, Klerman GL, Portera L, Rosenbaum JF, Goldenberg I. A comparison of symptom determinants of patient and clinician global ratings in patients with panic disorder and depression. J Clin Psychopharmacol 1993; 13(5):327–31.

Spearing MK, Post RM, Leverich GS, Brandt D, Nolen

W. Modification of the Clinical Global Impressions (CGI) Scale for use in bipolar illness (BP): the CGI-BP. Psychiatry Res 1997; 73(3):159–71.

Zaider TI, Heimberg RG, Fresco DM, Schneier FR, Liebowitz MR. Evaluation of the clinical global impression scale among individuals with social anxiety disorder. Psychol Med 2003; 33(4):611–22.

1. Severity of illness: Considering your total clinical experience with this particular population, how mentally ill is the patient at this time?	
0	Not assessed
1	Normal, not at all ill
2	Borderline mentally ill
3	Mildly ill
4	Moderately ill
5	Markedly ill
6	Severely ill
7	Among the most extremely ill patients
2. Global improvement: Rate total improvement whether or not, in your judgement, it is due entirely to drug treatment. Compared to his condition at admission to the project, how much has he changed?	
0	Not assessed
2	Much improved
1	Very much improved
3	Minimally improved
4	No change
5	Minimally worse
6	Much worse
7	Very much worse

3. Efficacy index: Rate this item on the basis of drug effect only.
Select the terms which best describe the degrees of therapeutic effect and side effects and record the number in the box where the two items intersect.
EXAMPLE: Therapeutic effect is rated as 'Moderate' and side effects are judged 'Do not significantly interfere with patient's functioning'.

Therapeutic effect		Side effects			
		None	Do not significantly interfere with patient's functioning	Significantly interferes with patient's functioning	Outweighs therapeutic effect
Marked	Vast improvement. Complete or nearly complete remission of all symptoms	**01**	**02**	**03**	**04**
Moderate	Decided improvement. Partial remission of symptoms	**05**	**06**	**07**	**08**
Minimal	Slight improvement which doesn't alter status of care of patient	**09**	**10**	**11**	**12**
Unchanged or worse		**13**	**14**	**15**	**16**
Not assessed = 00					

Reference

Guy W, editor. ECDEU Assessment Manual for Psychopharmacology. 1976. Rockville, MD, U.S. Department of Health, Education, and Welfare

Reproduced from Guy W, editor. ECDEU Assessment Manual for Psychopharmacology. 1976. Rockville, MD, U.S. Department of Health, Education, and Welfare

PD composite scale (PDCS)

Motor symptoms

Bradykinesia:	Score	(Total of finger tapping, alternating hand movements, legs agility, total impression of body bradykinesia)
Absent	0	Symptom not present.
Mild	1	Minimal slowness, giving movement a deliberate character; could be normal for some persons. Possibly reduced amplitude.
Moderate	2	Mild degree of slowness and poverty of movement which is definitely abnormal. Alternatively, some reduced amplitude.
Severe	3	Moderate slowness, poverty or small amplitude of movement.
Very severe	4	Marked slowness, poverty or small amplitude of movement.

Tremor:	Score	(Total of four limbs)
Absent	0	Symptom not present.
Mild	1	Slight and infrequently present.
Moderate	2	Mild in amplitude and persistent. Or moderate in amplitude, but only intermittently present.
Severe	3	Moderate in amplitude and present most of the time.
Very severe	4	Marked in amplitude and present most of the time.

Gait:	Score	
Absent	0	Symptom not present.
Mild	1	Walks slowly, may shuffle with short steps, no festination or propulsion.

Moderate	2	Walks with difficulty, little or no assistance, some festination, short steps or propulsion.
Severe	3	Severe disturbance, frequent assistance.
Very severe	4	Cannot walk.

Balance/postural stability:	Score	
Absent	0	Symptoms not present.
Mild	1	Walks without help, recovers unaided at pull test.
Moderate	2	Walks with help, would fall if not caught at pull test.
Severe	3	Walks with help, falls spontaneously at pull test.
Very severe	4	Wheelchair bound, unable to stand.

Freezing:	Score	
Absent	0	Symptom not present.
Mild	1	1-2 seconds – very rarely.
Moderate	2	3-10 seconds – rarely.
Severe	3	11-30 seconds – often.
Very severe	4	≥31 seconds – always.

Non-motor symptoms (in the past 2 weeks)

Nocturnal akinesia:	Score	
Absent	0	Symptom not present.
Mild	1	Mild loss of the ability to move (10-20% of the night).
Moderate	2	Moderate loss of the ability to move (21-40% of the night).
Severe	3	Severe loss of the ability to move (41-60% of the night).
Very severe	4	Very severe loss of the ability to move (61-100% of the night).

Fatigue:	Score	
Absent	0	Symptom not present.
Mild	1	Fatigue interferes very rarely with physical functioning/ carrying out duties/responsibilities.
Moderate	2	Fatigue interferes rarely with physical functioning/ carrying out duties/responsibilities.
Severe	3	Fatigue interferes often with physical functioning/ carrying out duties/responsibilities.
Very severe	4	Fatigue interferes always with physical functioning/ carrying out duties/responsibilities.

Urinary:	Score	
Absent	0	Symptom not present.
Mild	1	Very rarely urgency and frequency day/night.
Moderate	2	Rarely urgency and frequency day/night.
Severe	3	Often urgency and frequency day/night, rarely loss of urine.
Very severe	4	Always urgency and frequency day/night, frequent loss of urine.

Cognitive impairment:	Score	
Absent	0	Symptom not present.
Mild	1	Occasional forgetfulness with partial recollection of events and no other difficulties.
Moderate	2	Moderate memory loss, with disorientation and moderate difficulty handling complex problems. Mild but definite impairment of function at home with need of occasional prompting.
Severe	3	Severe memory loss with disorientation for time and often to place. Severe impairment in handling problems.
Very severe	4	Severe memory loss with severe spatio-temporal disorientation. Unable to make judgments or solve problems. Requires much help with personal care. Cannot be left alone at all.

Depression/ anxiety:	Score	
Absent	0	Symptoms not present.
Mild	1	Periods of sadness or anxiety greater than normal, never sustained for days or weeks.
Moderate	2	Sustained depression or anxiety (1 week or more).
Severe	3	Sustained depression with vegetative symptoms (insomnia, anorexia, weight loss, loss of interest) or sustained anxiety.
Very severe	4	Sustained depression with vegetative symptoms and suicidal thoughts or intent.

Symptomatic orthostatic hypotension:	Score	
Absent	0	Symptom not present.
Mild	1	Very rare dizziness/high headedness/feeling faint/ generalised weakness.
Moderate	2	Rare dizziness/high headedness/feeling faint/generalised weakness.
Severe	3	Often dizziness/high headedness/feeling faint/ generalised weakness and occasional loss of consciousness.
Very severe	4	Always dizziness/high headedness/feeling faint/ generalised weakness and frequent loss of consciousness.

Hallucinations or thought disorder (due to drug intoxication or dementia):	Score	
Absent	0	Symptoms not present.
Mild	1	Vivid dreaming or hallucinations.
Moderate	2	“Benign” hallucinations with insight retained.

Severe	3	Occasional to frequent hallucinations or delusions; without insight; could interfere with daily activities.
Very severe	4	Persistent hallucinations, delusions or florid psychosis. Not able to care for self.

Treatment complications (in the past 2 weeks)

Dyskinesia:	Score	(or if present, rate the severity of camptocormia and/or Pisa syndrome)
Absent	0	Symptom not present.
Mild	1	Dyskinesia present ≤25% of on-time, or more but not interfering with daily activities .
Moderate	2	Dyskinesia present 26-50% of on-time, mildly interfering with daily activities.
Severe	3	Dyskinesia present 51-75% of on-time, or less but interfering with daily activities.
Very severe	4	Dyskinesia present ≥76% of on-time and interfering with daily activities.

Dystonia:	Score	
Absent	0	Symptom not present.
Mild	1	Dystonia present less than 30 minutes a day.
Moderate	2	Dystonia present less than 60 minutes a day.
Severe	3	Dystonia present less than 2 hours a day, with pain.
Very severe	4	Dystonia present more than 2 hours a day, with severe pain.

ON/OFF:	Score	
Absent	0	Symptom not present.
Mild	1	Time spent in the OFF state: ≤25% of waking day; fluctuations impact on a few activities.
Moderate	2	Time spent in the OFF state: 26-50% of waking day; fluctuations impact on some activities.

Severe	3	Time spent in the OFF state: 51-75% of waking day; fluctuations impact on many activities.
Very severe	4	Time spent in the OFF state: ≥76% of waking day; fluctuations impact on all the activities.

Dopamine dysregulation syndrome:	Score	
Absent	0	Symptom not present
Mild	1	Very rare auto-medication/mood disturbance/violent behaviour/compulsive behaviour.
Moderate	2	Rare auto-medication/mood disturbance/violent behaviour/compulsive behaviour.
Severe	3	Often auto-medication/mood disturbance/violent behaviour/compulsive behaviour.
Very severe	4	Always auto-medication/mood disturbance/violent behaviour/compulsive behaviour.

Disability level:	Score	
Absent	0	Able to perform daily activity without problems.
Mild	1	Limitations to perform exigent or instrumental daily activities.
Moderate	2	Limitations to perform basic daily activities.
Severe	3	Needs help to perform some basic daily activities.
Very severe	4	Dependent of other persons to perform all basic daily activities.

If you are a healthcare professional and you have used the Parkinson's Disease Composite Scale (PDCS), we would kindly ask you to complete a short survey here: www.surveymonkey.com/r/PDCSfeedback

The answers to this survey will provide the European Parkinson's Disease Association (EPDA) with valuable feedback which will be used to further develop the PDCS.

References:

http://EPDA.eu.com European Parkinson Disease Association

Non-motor symptoms

Parkinson's Disease Sleep Scale (PDSS-2)

Please rate the severity of the following based on your experiences during the past week (7 days). Please make a cross in the answer box.

Very often	(This means 6 to 7 days a week)
Often	(This means 4 to 5 days a week)
Sometimes	(This means 2 to 3 days a week)
Occasionally	(This means 1 day a week)
Never	

References:

Permission from contact@mapi-trust.org necessary; Chaudhuri KR, Pal S, DiMarco A, et al. The Parkinson's disease sleep scale: a new instrument for assessing sleep and nocturnal disability in Parkinson's disease. J Neurol Neurosurg Psychiatry 2002; 73: 629-635.

		Very often	Often	Sometimes	Occasionally	Never
1	Overall, did you sleep well during the last week?	☐	☐	☐	☐	☐
2	Did you have difficulty falling asleep each night?	☐	☐	☐	☐	☐
3	Did you have difficulty staying asleep?	☐	☐	☐	☐	☐
4	Did you have restlessness of legs or arms at nights causing disruption of sleep?	☐	☐	☐	☐	☐
5	Was your sleep disturbed due to an urge to move your legs or arms?	☐	☐	☐	☐	☐
6	Did you suffer from distressing dreams at night?	☐	☐	☐	☐	☐
7	Did you suffer from distressing hallucinations at night (seeing or hearing things that you are told do not exist)?	☐	☐	☐	☐	☐
8	Did you get up at night to pass urine?	☐	☐	☐	☐	☐
9	Did you feel uncomfortable at night because you were unable to turn around in bed or move due to immobility?	☐	☐	☐	☐	☐
10	Did you feel pain in your arms or legs which woke you up whilst sleeping at night?	☐	☐	☐	☐	☐
11	Did you have muscle cramps in your arms or legs which woke you up whilst sleeping at night?	☐	☐	☐	☐	☐
12	Did you wake early in the morning with painful posturing of arms and legs?	☐	☐	☐	☐	☐
13	On waking, did you experience tremor?	☐	☐	☐	☐	☐
14	Did you feel tired and sleepy after waking in the morning?	☐	☐	☐	☐	☐
15	Did you wake up at night due to snoring or difficulties with breathing?	☐	☐	☐	☐	☐

Epworth Sleepiness Scale (ESS)

How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired?

This refers to your usual way of life in recent times. Even if you haven't done some of these things recently try to work out how they would have affected you. Use the following scale to choose the most appropriate number for each situation:

would **never** doze	**0**
slight chance of dozing	**1**
moderate chance of dozing	**2**
high chance of dozing	**3**

It is important that you answer each question as best you can.

Situation	Chance of Dozing (0-3)
Sitting and reading	
Watching TV	
Sitting, inactive in a public place (e.g. a theatre or a meeting)	
As a passenger in a car for an hour without a break	
Lying down to rest in the afternoon when circumstances permit	
Sitting and talking to someone	
Sitting quietly after a lunch without alcohol	
In a car, while stopped for a few minutes in the traffic	

References:

Murray W. John; Oxford acedemiy; Sleep, Volume 14, Issue 6, November 1991, Pages 540–545,

REM Sleep Behaviour Disorder Screening Questionnaire (RSBDS)

Please answer the following questions about your sleep behavior by checking either “yes” or “no”.

		YES	NO
1	I sometimes have very vivid dreams	☐	☐
2	My dreams often have aggressive or action-packed content	☐	☐
3	The movements of my body at night often correspond to my dreams	☐	☐
4	I know that I move my arms or my legs in my sleep	☐	☐
5	When this has happened, I have sometimes (almost) hurt my sleeping partner or myself	☐	☐
6	I experience or have experienced the following phenomena during my dreams:	☐	☐
6.1	speaking, shouting, swearing, laughing loudly	☐	☐
6.2	sudden limb movements, “fights”	☐	☐
6.3	gestures, sequences of movements that are pointless during sleep, e.g. waving, saluting, shooing away a fly, falling out of bed	☐	☐
6.4	things that have fallen down around the bed, e.g. bedside lamp, book, glasses	☐	☐
7	At times I’m woken up by my own movements	☐	☐
8	On waking up, I can usually remember the content of my dreams well	☐	☐
9	My sleep is often disturbed	☐	☐
10	I have/have had a disease of the nervous system (e.g. stroke, head trauma, Parkinson’s Disease, RLS, narcolepsy, depression, epilepsy, inflammatory disease of the brain). If so, which one?	☐	☐

References:

Stiasny-Kolster, K., Mayer, G., Schäfer, S., Möller, J. C., Heinzel-Gutenbrunner, M., & Oertel, W. H. (2007). The REM sleep behavior disorder screening questionnaire—a new diagnostic instrument. Movement disorders, 22(16), 2386-2393.

Beck Depression Inventory (BDI)

It measures the severity of depression.

It is a 21-question multiple-choice self-report inventory, one of the most widely used psychometric tests for measuring the severity of depression. Its development marked a shift among mental health professionals, who had until then, viewed depression from a psychodynamic perspective, instead of it being rooted in the patient‘s own thoughts.

In its current version, the BDI-II is designed for individuals aged 13 and over, and is composed of items relating to symptoms of depression such as hopelessness and irritability, cognitions such as guilt or feelings of being punished, as well as physical symptoms such as fatigue, weight loss, and lack of interest in sex.

Instruction:

Each question has a set of at least four possible responses, ranging in intensity.

1	score
I do not feel sad.	**0**
I feel sad	**1**
I am sad all the time and I can‘t snap out of it.	**2**
I am so sad and unhappy that I can‘t stand it.	**3**
2	
I am not particularly discouraged about the future.	**0**
I feel discouraged about the future.	**1**
I feel I have nothing to look forward to.	**2**
I feel the future is hopeless and that things cannot improve.	**3**
3	
I do not feel like a failure.	**0**
I feel I have failed more than the average person.	**1**
As I look back on my life, all I can see is a lot of failures.	**2**
I feel I am a complete failure as a person.	**3**
4	
I get as much satisfaction out of things as I used to.	**0**
I don‘t enjoy things the way I used to.	**1**

I don‘t get real satisfaction out of anything any more.	2
I am dissatisfied or bored with everything.	3
5	
I don‘t feel particularly guilty	0
I feel guilty a good part of the time.	1
I feel quite guilty most of the time.	2
I feel guilty all of the time.	3
6	
I don‘t feel I am being punished.	0
I feel I may be punished.	1
I expect to be punished.	2
I feel I am being punished.	3
7	
I don‘t feel disappointed in myself.	0
I am disappointed in myself.	1
I am disgusted withmyself.	2
I hate myself.	3
9	
I don‘t feel I am any worse than anybody else.	0
I am critical of myself for my weaknesses or mistakes.	1
I blame myself all the time for my faults.	2
I blame myself for everything bad that happens.	3
9	
I don‘t have any thoughts of killing myself.	0
I have thoughts of killing myself, but I would not carry them out.	1
I would like to kill myself.	2
I would kill myself if I had the chance.	3
10	
I don‘t cry any more than usual.	0
I cry more now than I used to.	1
I cry all the timenow.	2
I used to be able to cry, but now I can‘t cry even though I want to.	3

11	
I am no more irritated by things than I ever was.	**0**
I am slightly more irritated now than usual.	**1**
I am quite annoyed or irritated a good deal of the time.	**2**
I feel irritated all the time.	**3**
12	
I have not lost interest in other people.	**0**
I am less interested in other people than I used to be.	**1**
I have lost most of my interest in other people.	**2**
I have lost all of my interest in other people.	**3**
13	
I make decisions about as well as I ever could.	**0**
I put off making decisions more than I used to.	**1**
I have greater difficulty in making decisions more than I used to.	**2**
I can‘t make decisions at all any more.	**3**
14	
I don‘t feel that I look any worse than I used to.	**0**
I am worried that I am looking old or unattractive.	**1**
I feel there are permanent changes in my appearance that make me look unattractive	**2**
I believe that I look ugly.	**3**
15	
I can work about as well as before.	**0**
It takes an extra effort to get started at doing something.	**1**
I have to push myself very hard to do anything.	**2**
I can‘t do any work at all.	**3**
16	
I can sleep as well as usual.	**0**
I don‘t sleep as well as I used to.	**1**
I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.	**2**
I wake up several hours earlier than I used to and cannot get back to sleep.	**3**
17	
I don‘t get more tired than usual.	**0**

I get tired more easily than I used to.	1
I get tired from doing almost anything.	2
I am too tired to do anything.	3
18	
My appetite is no worse than usual.	0
My appetite is not as good as it used to be.	1
My appetite is much worse now.	2
I have no appetite at all anymore.	3
19	
I haven't lost much weight, if any, lately.	0
I have lost more than five pounds.	1
I have lost more than ten pounds.	2
I have lost more than fifteen pounds.	3
20	
I am no more worried about my health than usual.	0
I am worried about physical problems like aches, pains, upset stomach, or constipation.	1
I am very worried about physical problems and it's hard to think of much else.	2
I am so worried about my physical problems that I cannot think of anything else.	3
21	
I have not noticed any recent change in my interest in sex.	0
I am less interested in sex than I used to be.	1
I have almost no interest in sex.	2
I have lost interest in sex completely.	3
TOTAL SCORE:	

Interpretation:

- 0 – 9 : indicates minimal depression
- 10 – 18 : indicates mild depression
- 19 – 29 : indicates moderate depression
- 30 – 63 : indicates severe depression.

Strengths: Among the positive features of the BDI are the fact that it has been evaluated frequently with generally positive outcomes and is brief, easily scored, and easily administered.

Approximate time of the test: 10 minutes.

References:

Beck AT et al. Archives of General Psychiatry 1961; 4 (6): 561-571.

Beck AT et al. Clinical Psychology Review 1988; 8 (1): 77-100.

https://www.ismanet.org/doctoryourspirit/pdfs/Beck-Depression-Inventory-BDI.pdf – 17.03.2020.

Geriatric Depression Scale (GDS)

WHY: Depression is common in late life, affecting nearly 5 million of the 31 million Americans aged 65 and older with clinically significant depressive symptoms reaching 13% in older adults aged 80 and older (Blazer, 2009). Major depression is reported in 8-16% of community dwelling older adults, 5-10% of older medical outpatients seeing a primary care provider, 10-12% of medical-surgical hospitalized older adults with 23% more experiencing significant depressive symptoms (Blazer, 2009). Recognition in long-term care facilities is poor and not consistent amongst studies (Blazer, 2009).

Depression is not a natural part of aging. Depression is often reversible with prompt recognition and appropriate treatment. However, if left untreated, depression may result in the onset of physical, cognitive, functional, and social impairment, as well as decreased quality of life, delayed recovery from medical illness and surgery, increased health care utilization, and suicide.

BEST TOOL: While there are many instruments available to measure depression, the Geriatric Depression Scale (GDS), first created by Yesavage, et al., has been tested and used extensively with the older population. The GDS Long Form is a brief, 30-item questionnaire in which participants are asked to respond by answering YES or no in reference to how they felt over the past week. A Short Form GDS consisting of

15 questions was developed in 1986. Questions from the Long Form GDS which had the highest correlation with depressive symptoms in validation studies were selected for the short version. Of the 15 items, 10 indicated the presence of depression when answered positively, while the rest (question numbers 1, 5, 7, 11, 13) indicated depression when answered negatively. Scores of 0-4 are considered normal, depending on age, education, and complaints; 5-8 indicate mild depression; 9-11 indicate moderate depression; and 12-15 indicate severe depression.

The Short Form is more easily used by physically ill and mildly to moderately demented patients who have short attention spans and/or feel easily fatigued. It takes about 5 to 7 minutes to complete.

TARGET POPULATION: The GDS may be used with healthy, medically ill and mild to moderately cognitively impaired older adults. It has been extensively used in community, acute and long-term care settings.

VALIDITY AND RELIABILITY: The GDS was found to have a 92% sensitivity and a 89% specificity when evaluated against diagnostic criteria. The validity and reliability of the tool have been supported through both clinical practice and research. In a validation study comparing the Long and Short Forms of the GDS for self-rating of symptoms of depression, both were successful in differentiating depressed from non-depressed adults with a high correlation ($r = .84$, $p < .001$) (Sheikh & Yesavage, 1986).

STRENGTHS AND LIMITATIONS: The GDS is not a substitute for a diagnostic interview by mental health professionals. It is a useful screening tool in the clinical setting to facilitate assessment of depression in older adults especially when baseline measurements are compared to subsequent scores. It does not assess for suicidality.

FOLLOW-UP: The presence of depression warrants prompt intervention and treatment. The GDS may be used to monitor depression over time in all clinical settings. Any positive score above 5 on the GDS Short Form should prompt an in-depth psychological assessment and evaluation for suicidality.

MORE ON THE TOPIC:

Best practice information on care of older adults: www.ConsultGeriRN.org.The Stanford/VA/NIA Aging Clinical Resource Center (ACRC) website. Retrieved July 2, 2012, from http://www.stanford.edu/~yesavage/ACRC.html. Information on the GDS. Retrieved July 2, 2012, from http://www.stanford.edu/~yesavage/GDS.html.

Blazer, D.G. (2009). Depression in late life: Review and commentary. FOCUS, 7(1), 118-136.

Greenberg, S.A. (2007). How to Try This: The Geriatric Depression Scale: Short Form. AJN, 107(10), 60-69.

Harvath, T.A., & McKenzie, G. (2012). Depression in Older Adults. In M. Boltz, E. Capezuti, T.T. Fulmer, & D. Zwicker (Eds.), A. O'Meara (Managing Ed.), Evidence-based geriatric nursing protocols for best practice (4th ed., pp. 135-162). NY: Springer Publishing Company, LLC.

Koenig, H.G., Meador, K.G., Cohen, J.J., & Blazer, D.G. (1988). Self-rated depression scales and screening for major depression in the older hospitalized patient with medical illness. JAGS, 36, 699-706.

Sheikh, J.I., & Yesavage, J.A. (1986). Geriatric Depression Scale (GDS). Recent evidence and development of a shorter version. In T.L. Brink (Ed.), Clinical Gerontology: A Guide to Assessment and Intervention (pp. 165-173). NY: The Haworth Press, Inc.

Yesavage, J.A., Brink, T.L., Rose, T.L., Lum, O., Huang, V., Adey, M.B., & Leirer, V.O. (1983). Development and validation of a geriatric depression screening cale: A preliminary report. Journal of Psychiatric Research, 17, 37-49.

Geriatric Depression Scale: Short Form
Choose the best answer for how you have felt over the past week:

1	Are you basically satisfied with your life?	YES / **NO**
2	Have you dropped many of your activities and interests?	**YES** / NO
3	Do you feel that your life is empty?	**YES** / NO
4	Do you often get bored?	**YES** / NO
5	Are you in good spirits most of the time?	YES / **NO**
6	Are you afraid that something bad is going to happen to you?	**YES** / NO
7	Do you feel happy most of the time?	YES / **NO**
8	Do you often feel helpless?	**YES** / NO
9	Do you prefer to stay at home, rather than going out and doing new things?	**YES** / NO
10	Do you feel you have more problems with memory than most?	**YES** / NO
11	Do you think it is wonderful to be alive now?	YES / **NO**
12	Do you feel pretty worthless the way you are now?	**YES** / NO
13	Do you feel full of energy?	YES / **NO**
14	Do you feel that your situation is hopeless?	**YES** / NO
15	Do you think that most people are better off than you are?	**YES** / NO
Answers in **bold** indicate depression. Score 1 point for each bolded answer.		

A score **> 5 points** is suggestive of depression.
A score **≥ 10 points** is almost always indicative of depression.
A score **> 5 points** should warrant a follow-up comprehensive assessment.

Source: http://www.stanford.edu/~yesavage/GDS.html This scale is in the public domain.

References:

Sheikh JI, Yesavage JA. Geriatric Depression Scale (GDS): recent evidence and development of a shorter version. Clin Gerontol 1986;165-173

Hospital Anxiety and Depression Scale (HADS)

The Hospital Anxiety and Depression Scale, a self-assessment scale, was developed to detect states of depression, anxiety and emotional distress.

Instructions:

Make a cross beside the reply that is closest to how you have been feeling in the past week.

Don't take too long over your replies: your immediate is best.

(D = Depression / A = Anxiety)	D	A
I feel tense or 'wound up':		
Most of the time		3
A lot of the time		2
From time to time, occasionally		1
Not at all		0
I still enjoy the things I used to enjoy:		
Definitely as much	0	
Not quite so much	1	
Only a little	2	
Hardly at all	3	
I get a sort of frightened feeling as if something awful is about to happen:		
Very definitely and quite badly		3
Yes, but not too badly		2
A little, but it doesn't worry me		1
Not at all		0
I can laugh and see the funny side of things:		
As much as I always could	0	
Not quite so much now	1	
Definitely not so much now	2	
Not at all	3	
Worrying thoughts go through my mind:		
A great deal of the time		3
A lot of the time		2
From time to time, but not too often		1

(D = Depression / A = Anxiety)	D	A
Only occasionally		0
I feel cheerful:		
Not at all	3	
Not often	2	
Sometimes	1	
Most of the time	0	
I can sit at ease and feel relaxed:		
Definitely		0
Usually		1
Not Often		2
Not at all		3
I feel as if I am slowed down:		
Nearly all the time	3	
Very often	2	
Sometimes	1	
Not at all	0	
I get a sort of frightened feeling like 'butterflies' in the stomach:		
Not at all		0
Occasionally		1
Quite Often		2
Very Often		3
I have lost interest in my appearance:		
Definitely	3	
I don't take as much care as I should	2	
I may not take quite as much care	1	
I take just as much care as ever	0	
I feel restless as I have to be on the move:		
Very much indeed		3
Quite a lot		2
Not very much		1
Not at all		0
I look forward with enjoyment to things:		
As much as I ever did	0	
Rather less than I used to	1	
Definitely less than I used to	2	

(D = Depression / A = Anxiety)	D	A
Hardly at all	3	
I get sudden feelings of panic:		
Very often indeed		3
Quite often		2
Not very often		1
Not at all		0
I can enjoy a good book or radio or TV program:		
Often	0	
Sometimes	1	
Not often	2	
Very seldom	3	
Total score: Depression (D) / Anxiety (A)		

Interpretation:

Normal	0–7
Borderline abnormal (borderline case)	8–10
Abnormal (case)	11–21

Strengths: Brief and simple to use especially with non-hospital groups.

Approximate time of the test: 10 minutes.

References:
Aben I et al. Psychosomatics 2002; 43 (5): 386-393.
Bjelland I et al. Journal of Psychosomatic Research 2002; 52 (2): 69-77.
Brennan C et al. Journal of Psychosomatic Research 2010; 69 (4): 371-378.
Snaith RP et al. Health and Quality of Life Outcomes 2003; 1 (1): 29.

Sniffin' Sticks Screening 12 Test

Description

With the Burghart Sniffin' Sticks "Screening 12 Test" the question whether the patient possesses a normal or decreased olfactory sense can be roughly answered. The patient has to name the smell using a multiple choice form which offers four answers for every pen, only one the answers is correct. A template that goes with the multiple choice forms makes evaluation very simple. This test is a commonly used test within ENT and occupational health and safety services. After performing this screening test you can roughly say whether the test person has anosmia, hyposomy or normosmia. It is based on the identification of every-day odors in the scope of a „multiple-forced-choice" method. The time required for the execution and evaluation of the test is between 3 and 4 minutes. The test is recommended by the corresponding boards of experts or is established through the publication in renowned specialist journals.

Odors Screening 12 Test

The Screening 12 Test has 12 sticks with everyday odors. The odors of these sticks are peppermint, fish, coffee, banana, orange, rose, lemon, pineapple, cinnamon, cloves, leather and liquorice.

Contents of the Screening 12 Test

The Screening 12 Test will be delivered with a holder, instructions for use and evaluation material. The manual and multiple choice cards are available in the following languages, please specify in your order: English, German, Polish, French, Danish, Dutch, Spanish, Portuguese, Greek and Czech.

This test is also available as a refill set without the holder and material/ manual.

This is the standard test which only contains 12 Sniffin' Sticks. It does not contain the taste strips. If you need the 12 sticks with the taste strips then you need the combination set which can be found here.

Shelf life Screening 12 Test

Each stick is labelled with a best before date, you can use the Sniffin' Sticks for as many persons as you want before this date. Important is that you use the stick correctly, don't touch the tip of the pen with fingers or nose. That will contaminate the stick and you cannot use the stick anymore because you cannot guarantee the

quality of the odor of the stick. The shelf life for the Screening 12 Test is approx. 1-1.5 year.

Due to hygiene reasons we cannot accept returns of the sticks.

We have this test available from stock and can ship it within 24-hours after receipt of your order.

How to use the Screening 12 Test

We regularly receive questions about the use of the Burghart Sniffin' Sticks. On this https://www.smelltest.eu/en/geen-categorie/how-to-use-the-sniffin-sticks/ page we explain step by step how the Screening 12 test works, as you can see it is an easy and user-friendly smell test.

References:

http://smelltest.eu

Parkinson's Disease Fatigue Scale (PFS-16)

Printed below are a series of statements about fatigue and the impact that it can have.

How well do the statements describe your own feelings and experiences over the past two weeks? Read each item and decide how much you agree or disagree with it. Then tick the appropriate box. **Tick only one box for each item and try not to miss any out.**

		Strongly disagree	Disagree	Do not agree or disagree	Agree	Strongly agree
1	I have to rest during the day	☐	☐	☐	☐	☐
2	My life is restricted by fatigue	☐	☐	☐	☐	☐
3	I get tired more quickly than other people I know	☐	☐	☐	☐	☐
4	Fatigue is one of my three worst symptoms	☐	☐	☐	☐	☐
5	I feel completely exhausted	☐	☐	☐	☐	☐
6	Fatigue makes me reluctant to socialise	☐	☐	☐	☐	☐
7	It takes me longer to get things done because of fatigue	☐	☐	☐	☐	☐
8	I have a feeling of heaviness	☐	☐	☐	☐	☐
9	If I wasn't so tired I could do more things	☐	☐	☐	☐	☐
10	Everything I do is an effort	☐	☐	☐	☐	☐
11	I feel tired for much of the time	☐	☐	☐	☐	☐
12	I feel totally drained	☐	☐	☐	☐	☐
13	Fatigue makes it difficult for me to cope with everyday activities	☐	☐	☐	☐	☐
14	I feel tired even when I haven't done anything	☐	☐	☐	☐	☐
15	Because of fatigue I do less in my day than I would like	☐	☐	☐	☐	☐
16	I get so tired I want t o lie down wherever I am	☐	☐	☐	☐	☐

	Scoring method 1	Scoring method 2*
Strong Disagree	1	0
Disagree	2	0
Neither agree nor disagree	3	0
Agree	4	1
Strongly agree	5	1

*Note: Although Scoring method 2 is easier to compute, a study of the metric properties of the PFS-16 did not recommend its use.

Score of ≥8 indicates the presence of significant fatigue

References:

Nilsson MH, Bladh S, Hagell P. Fatigue in Parkinson's Disease: Measurement Properties of a Generic and a Condition- specific Rating Scale. J Pain Symptom Manage. 2013 Mar 15. pii: S0885-3924(13)00107-3. doi: 10.1016/j.jpainsymman.2012.11.004. [Epub ahead of print]

Fatigue Severity Scale (FSS)

The Fatigue Severity Scale (FSS) is designed to differentiate fatigue from clinical depression, since both share some of the same symptoms. Essentially, the FSS consists of answering a short questionaire that requires the subject to rate his or her own level of fatigue. The obvious problem with this measure is its subjectivity.

Here is an example FSS questionaire containing nine statements that attempt to explore severity of fatigue symptoms. The subject is asked to read each statement and circle a number from 1 to 7, depending on how appropriate they felt the statement applied to them over the preceding week. A low value indicates that the statement is not very appropriate whereas a high value indicates agreement.

FSS Questionaire

	During the past week, I have found that:	Agreement Score						
1	My motivation is lower when I am fatigued.	1	2	3	4	5	6	7
2	Exercise brings on my fatigue.	1	2	3	4	5	6	7
3	I am easily fatigued.	1	2	3	4	5	6	7
4	Fatigue interferes with my physical functioning.	1	2	3	4	5	6	7
5	Fatigue causes frequent problems for me.	1	2	3	4	5	6	7
6	My fatigue prevents sustained physical functioning.	1	2	3	4	5	6	7
7	Fatigue interferes with carrying out certain duties and responsibilities.	1	2	3	4	5	6	7
8	Fatigue is among my three most disabling symptoms.	1	2	3	4	5	6	7
9	Fatigue interferes with my work, family, or social life.	1	2	3	4	5	6	7

The scoring is done by calculating the average response to the questions (adding up all the answers and dividing by nine).

People with depression alone score about 4.5. But people with fatigue related to MS, SLE or CFIDS average about 6.5.

References:

Krupp, L. B., LaRocca, N. G., Muir-Nash, J., & Steinberg, A. D. (1988)

King's PD Pain Scale (KPPS)

This scale is designed to define and accurately describe the different types and the pattern of pain that your patient may have experienced during the last month due to his/her Parkinson's disease or related medication.

Each symptom should be scored with respect to

Severity:	Frequency:
0 = None, 1 = Mild (symptoms present but causes little distress or disturbance to patient), 2 = moderate (some distress or disturbance to patient), 3 = Severe (major source of distress or disturbance to patient).	0 = Never, 1 = Rarely (<1/wk), 2 = Often (1/wk), 3 = Frequent (several times per week), 4 = Very Frequent (daily or all the time)

		Severity (0–3)	Frequency (0–4)	Severity x Frequency
Domain 1 Musculoskeletal Pain				
1	Does the patient experience pain around his/her joints? (including arthritic pain)			
	Domain 1 TOTAL SCORE:			
Domain 2 Chronic Pain				
2	Does the patient experience pain deep within the body? (A generalised constant, dull, aching pain – central pain)			
3	Does the patient experience pain related to an internal organ? (For example, pain around the liver, stomach or bowels – visceral pain)			
	Domain 2 TOTAL SCORE:			
Domain 3 Fluctuation-related Pain				

		Severity (0–3)	Frequency (0–4)	Severity x Frequency
4	Does the patient experience dyskinetic pain? (pain related to abnormal involuntary movements)			
5	Does the patient experience “off” period dystonia in a specific region? (in the area of dystonia)			
6	Does the patient experience generalised “off”period pain? (pain in whole body or areas distant to dystonia)			
	Domain 3 TOTAL SCORE:			
Domain 4 Nocturnal Pain				
7	Does the patient experience pain related to jerking leg movements during the night (PLM) or an unpleasant burning sensation in the legs which improves with movement (RLS)?			
8	Does the patient experience pain related to difficulty turning in bed at night?			
	Domain 4 TOTAL SCORE:			
Domain 5 Oro-facial Pain				
9	Does the patient experience pain when chewing?			
10	Does the patient have pain due to grinding his/her teeth during the night?			
11	Does the patient have burning mouth syndrome?			
	Domain 5 TOTAL SCORE:			
Domain 6 Discolouration; Oedema/swelling				

		Severity (0–3)	Frequency (0–4)	Severity x Frequency
12	Does the patient experience a burning pain in his/her limbs? (often associated with swelling or dopaminergic treatment)			
13	Does the patient experience generalised lower abdominal pain?			
	Domain 6 TOTAL SCORE:			
Domain 7 Radicular Pain				
14	Does the patient experience a shooting pain/ pins and needles down the limbs?			
	Domain 7 TOTAL SCORE:			
TOTAL SCORE (all domains):				

References:

Chaudhuri KR; Trenkwalder C; Martinez-Martin P (2012)

The Parkinson's Disease Cognitive Rating Scale (PD-CRS)

Items are administered to the subjects in the same order as presented below.

1. IMMEDIATE FREE RECALL VERBAL MEMORY.

Instruction: The subject is asked to read aloud the written words shown on 12 consecutive cards. Three trials are performed, and the subject is asked to recall as many words as possible after each trial.

Score: 1 point for each word recalled. The highest number of words recalled in any one trial is the score. (0-12)

Words	
LIGHT	
SILK	
SAND	
EYELASH	
RICE	
TIE	
BLACKBOARD	
BICYCLE	
STAR	
LION	
RING	
FRAGRANCE	

2. CONFRONTATION NAMING.

Instruction: The subject is asked to name the line drawings shown on 20 consecutive cards. There is no time limit for response, and only one trial is given. No semantic or phonemic cues are provided. When objects are included in their context (bib, buckle, mane, hook, jingle bell, and hoof), the examiner is allowed to indicate the part of the line drawing to be named.

Score: 1 point for each line drawing correctly named. (0-20)

Images (see line drawings at the end of the appendix)			
BIB		BUCKLE	
CANDLE		MANE	
CHERRY		HOOK	
STOOL		SCREWDRIVER	
ANCHOR		PANEL SCREEN	
TURTLE		SAFETY PIN	
KITE		JINGLE BELL	
FISHBOWL		HOOF	
BULB		EXTINGUISHER	
GUITAR		DOOR BOLT	

3. SUSTAINED ATTENTION.

Instruction: An ascending series of letters and numbers are read to the subjects. The subject is asked to report the number of letters in the sequence. Ten series of letters and numbers are presented, divided into five levels of ascending complexity. Two training series are provided at the beginning of the test.

Score: 1 point for each correct series. (0-10)

		Correct answer	
example	2 L T	2 letters	
	8 A 9	1 letter	
1	2 P 6 5 4	1 letter	
	3 A 6 K L	3 letters	
2	B 9 0 4 L T	3 letters	
	3 C P 5 7 3	2 letters	
3	3 9 5 L 4 Z A	3 letters	
	I 1 A S Q 4 1	4 letters	
4	7 5 D A 4 T B 2	4 letters	
	9 6 8 4 3 7 L C	2 letters	
5	Z 4 9 A T D 3 8 4	4 letters	
	9 5 M D 4 S C 3 E	5 letters	

4. WORKING MEMORY.

Instructions: The examiner reads aloud a randomized list of numbers and letters ranging in length from 2 to 6 letters and numbers. After each series the subject is asked to repeat the numbers first, and then the letters. Numeric and alphabetical order is not required. This test ends when the subject is unable to give the correct answer in two consecutive series. Two training series are provided at the beginning of the test.

Score: 1 point for each correct series. (0-10)

		Correct answer	
example	L 2 T	2 L T	
	8 A 9	8 9 A	
1	M 3	3 M	
	7 P	7 P	
2	G 8 M	8 G M	
	9 I 6	9 6 I	
3	T 0 4 A	0 4 T A	
	7 V 6 J	7 6 V J	
4	M 6 4 N I	6 4 M N I	
	3 5 S G C	3 5 S G C	
5	1 R 9 V B 3	1 9 3 R V B	
	M 2 7 4 Z 9	2 7 4 9 M Z	

5. UMPROMPTED DRAWING OF A CLOCK:

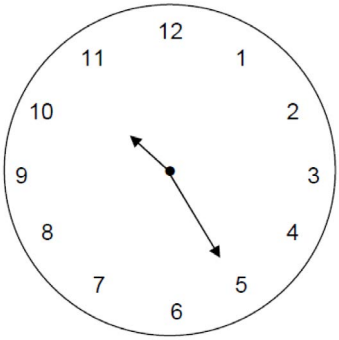
The subject is asked to draw a clock face on a blank sheet of paper, and to set the hands at “twenty-five minutes past ten”.

(0-10)

6. COPY DRAWING OF A CLOCK:

The patient is asked to copy the presented clock. (0-10)

Score: 1 point for each correct item. (0-10 for each task)



	Unprompted		Copy	
	Yes	No	Yes	No
The figure looks like a clock.				
The clock is not divided by lines or sectors.				
There is a symmetric disposition of numbers.				
Only 1 to 12 numbers are drawn.				
Hour numbers are correctly sequenced.				
Only two hands are drawn.				
Clock hands are represented as arrows.				
Hour hand is shorter than minute hand. Correct time.				
No words have been written.				
The number ‘25’ has not been drawn.				

7. DELAYED FREE RECALL VERBAL MEMORY.

Instructions: The subject is asked to recall as many words as possible from the list of words presented at the beginning of the scale.

Score: 1 point for each word recalled. (0-12)

Words	
LIGHT	
SILK	
SAND	
EYELASH	
RICE	
TIE	
BLACKBOARD	
BICYCLE	
STAR	
LION	
RING	
FRAGRANCE	

8. ALTERNATING VERBAL FLUENCY.

Instructions: The subject is asked to alternately generate as many different words as possible beginning with the letter 'S' and words describing articles of clothing during 60 seconds. Participants are instructed not to use proper nouns or to repeat the same word with a different ending (e.g., swim, swimming, swimsuit).

Score: 1 point for each correct answer only in the case where the alternation was maintaining between words beginning with 's' and articles of clothing. (0-20)

1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	
11.		12.	
13.		14.	
15.		16.	
17.		18.	
19.		20.	
S		**CLOTH**	

Example for the rater: space, trousers, jacket, spring -> score: 3 (only has one of the two pieces of clothing).

9. ACTION VERBAL FLUENCY.

Instructions: We used the instructions listed in Piatt et al. (reference number 45 in the manuscript) for the action verbal fluency task. The instructions are as follows: ‘‘During 60 seconds, I’d like you to tell me as many different things as you can think of that people do. I don’t want you to use the same word with different endings, like eat, eating, eaten. Also, just give me single words such as eat, or smell, rather than a sentence”.

Score: 1 point for each correct answer. (0-30)

1.		16.	
2.		17.	
3.		18.	
4.		19.	
5.		20.	
6.		21.	
7.		22.	
8.		23.	
9.		24.	
10.		25.	
11.		26.	
12.		27.	
13.		28.	
14.		29.	
15.		30.	

SCORES

ITEM	Points
1. Immediate free recall verbal memory	/12
2. Confrontation naming	/20
3. Sustained attention	/10
4. Working memory	/10
5. Unprompted drawing of a clock	/10
6. Copy drawing of a clock	/10
7. Delayed free recall verbal memory	/12
8. Alternating verbal fluency	/20
9. Action verbal fluency	/30
FRONTO-SUBCORTICAL score	/104
POSTERIOR-CORTICAL score	/30
TOTAL score	/134

Subcortical and cortical PD-CRS scores were obtained by adding the raw scores of the items within each group. Total scores on the PD-CRS were calculated by adding the subcortical and cortical PD-CRS scores.

Reference

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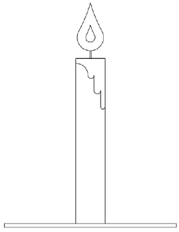
First published: 19 July 2013

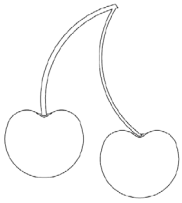
LINE DRAWINGS.

1. BIB

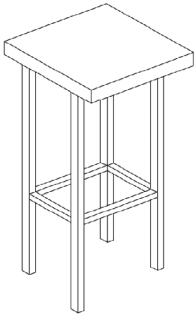
2. CANDLE



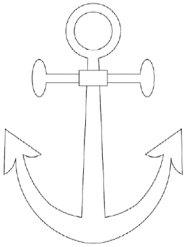
3. CHERRY



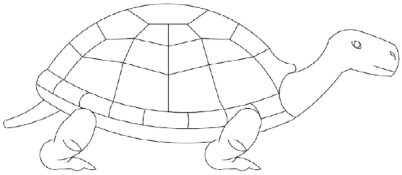
4. STOOL



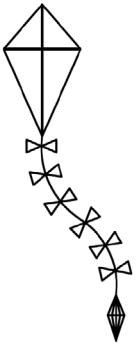
5. ANCHOR



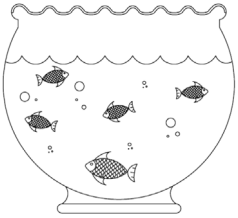
6. TURTLE



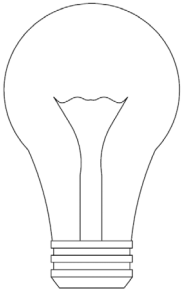
7. KITE



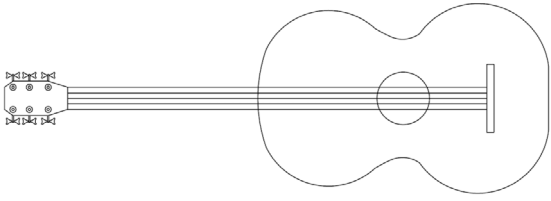
8. FISHBOWL



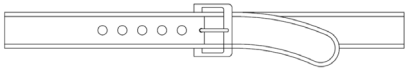
9. BULB



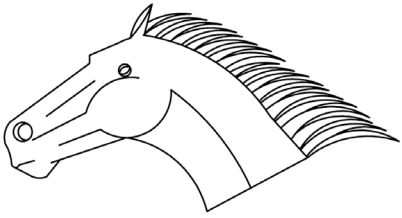
10. GUITAR



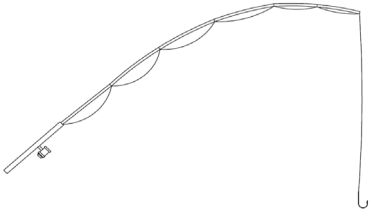
11. BUCKLE



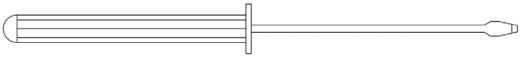
12. MANE



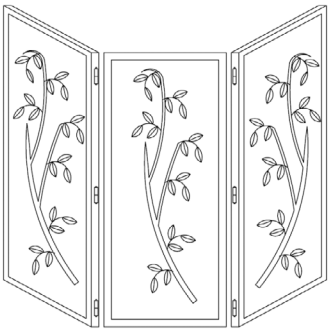
13. HOOK



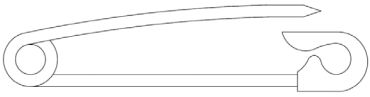
14. SCREWDRIVER



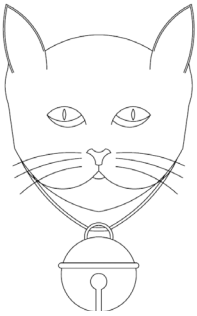
15. PANEL SCREEN



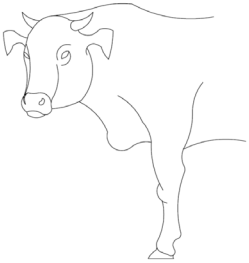
16. SAFETY PIN



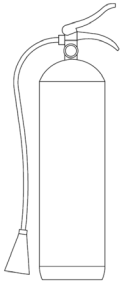
17. JINGLE BELL



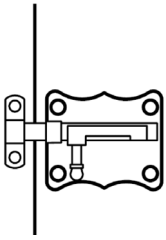
18. HOOF



19. EXTINGUISHER



20. DOOR BOLT



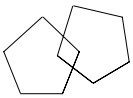
Mini-Mental State Examination (MMSE)

Brief screening tool to provide quantitative assessment of cognitive impairment and to record cognitive changes over time.

Instructions:

The MMSE consists of 22 simple questions or tasks grouped into 5 cognitive domains.

A	Orientation	score
1.	What is the year?	1
2.	What is the season of the year?	1
3.	What is the date?	1
4.	What is the day of the week?	1
5.	What is the month?	1
6.	Can you tell me where we are? (For instance, what state are we in?)	1
7.	What country are we in?	1
8.	What city/town are we in?	1
9.	What is the name or address of this place?	1
10.	What floor of the building are we on?	1
B	**Registration**	
11.	I am going to name three objects. After I have said them, I want you to repeat them. Repeat what they are because I am going to ask you to name them again in a few minutes. BUS DOOR ROSE Please repeat the names for me (1 second to name each). Give 1 point for each correct answer on the first trial. Count trials.) Record # of trials: _____	3
C	**Attention and Calculation**	
12.	Subtract serial sevens from 100 (93–86–79–72–65)? (Scoring: Scrore number of correct subtractions (0–5))	5
D	**Recall** "What were the three objects I asked you to remember?"	

13.	Bus:	1
14.	Door:	1
15.	Rose:	1
E	**Language**	
16.	(Show wrist watch) What is this called?	1
17.	(Show pencil) What is this called?	1
18.	I would like you to repeat a phrase after me. The phrase is: "No if's and's or but's" Allow only one trial.	1
19.	Read the words on this page, then do what it says. (The paper reads): "Close your eyes." Code correct if patient closes eyes.	1
20.	I'm going to give you a piece of paper. When I do, take the paper in your right hand, fold the paper in half with both hands and put the paper down on your lap. Read full statement then hand over the paper. Do not repeat instructions or coach (score 1 point for each correct step).	3
21.	Write any complete sentence on the piece of paper for me.	1
22.	Here is a drawing, please copy the drawing on the same paper. Score correct if the two five-sided figures intersect to form a four sided figure and if all angles in the five-sided figure are preserved. 	1

Total Score 30/	

Interpretation:

A possible score of 30 is used to provide a picture of an individual's present cognitive performance based on direct observation of completion of test items/tasks.

A score of < 24 is the generally accepted cutoff indicating the presence of cognitive impairment.

Levels of impairment	24–30 (None) 18–24 (Mild) 0–17 (Severe)
With cognitive function deficiency	< 17 (Non-educated) < 20 (With primary school education) < 24 (With secondary school education)
Dementia	> 23 (Normal) 13–23 (Mild dementia) 5–12 (Moderate dementia) < 5 (Severe dementia)

Strengths: Easy to administer. Allows record of cognitive changes over time.

Approximate time of the test: 10 minutes.

Reference:
Tombaugh TN et al. Journal of the American Geriatrics Society 1992; 40 (9): 922-935.

Apathy Evaluation Scale (AES-C)

Rate each item based on an interview of the subject. The interview should begin with a description of the subject's interest, activities and daily routine. Base your ratings on both verbal and non-verbal information. Ratings should be based on the past 4 weeks. For each item ratings should be judged:

Not at Characteristic	All Slightly Characteristic	Somewhat Characteristic	A Lot Characteristic
1	1	3	4

1	S/he is interested in things.		+ C Q
2	S/he gets things done during the day.		+ B Q
3	Getting things started on his/her own is important to her/him.		+ C SE
4	S/he is interested in having new experiences.		+ C Q
5	S/he is interested in learning new things.		+ C Q
6	S/he puts little effort into anything.		- B
7	S/he approaches life with intensity.		+ E
8	Seeing a job through to the end is important to her/him.		+ C SE
9	He/she spends time doing things that interest her/him.		+ B
10	Someone has to tell her/him what to do each day.		- B
11	S/he is less concerned about his/her problems than her/him should be.		- C
12	S/he has friends.		+ B Q
13	Getting together with friends is important to her/him.		+ C SE
14	When something good happens, he/she gets excited.		+ E
15	S/he has an accurate understanding of her/him problems.		+ O
16	Getting things done during the day is important to her/him.		+ C SE
17	S/he has initiative.		+ O
18	S/he has motivation.		+ O

Note: Items that have positive versus negative syntax are identified by +/-. Type of item: C = cognitive; B = behavior; E = emotional; O = other. The definitions of self-evaluation (SE) and quantifiable (Q) items are discussed in the administration guidelines [see Syllabus]. (Marin, 1991 [see References]) For self-rated and informant-rated versions of AES, the response options are Not at all true, Slightly true, etc. The Apathy Evaluation Scale was developed by Robert S. Marin, M.D. Development and validation studies are described in Marin et al., 1991 [see References]. Supplementary administration guidelines are available from the author.

References

Reprinted from Seminars in Clinical Neuropsychiatry, Vol 1(4), Marin RS, Apathy: concept, syndrome, neural mechanisms, and treatment, 304-314, copyright 1996, with permission from Elsevier.

Schellong Test

Name: _____

Date of birth: _____ | _____ | _____

	min	BD mmHg Systole	BD mmHg Diastole	Pulse / min	Symptoms
laying					
standing					
laying					

Evaluation:

– Drop in Systolic BD after getting up: _____ mmHg

– Drop in Diastolic BD after getting up: _____ mmHg

– Pulse change after getting up: _____ / min

References:

Auswertung Excel: Spital Chur, C. Camarin, 2003 (Modifiziert 13.12.2006)

Druckvorlage Riggisberg: Arbeitshandbuch, Kapitel Pflegedienst, Dokumentenfassung vom 01.01.2003

BD systolic: ⌄ BD diastolic: ⌃ Pulse: ×

	laying						standing						laying				
	0	2	4	6	8	10	0	2	4	6	8	10	0	2	4	6	
200																	200
190																	190
180																	180
170																	170
160																	160
150																	150
140																	140
130																	130
120																	120
110																	110
100																	100
90																	90
80																	80
70																	70
60																	60
50																	50
40																	40

Urinary symptoms (ICIQ-MLUTS)

Many people experience urinary symptoms some of the time. We are trying to find out how many people experience urinary symptoms, and how much they bother them. We would be grateful if you could answer the following questions, thinking about how you have been, on average, over the **PAST FOUR WEEKS**.

1. Please write in your date of birth:

DAY MONTH YEAR

2a. During the day, how many times do you urinate, on average?

one to six times	0
seven to eight times	1
nine to ten times	2
eleven to twelve times	3
thirteen times or more	4

2b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10

NOT AT ALL A GREAT DEAL

3a. During the night, how many times do you have to get up to urinate, on average?

none	0
one	1
two	2
three	3
four or more	4

3b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT ALL										A GREAT DEAL

4a. Do you have a sudden need to rush to the toilet to urinate?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

4b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

5a. Does urine leak before you can get to the toilet?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

5b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

6a. Do you have pain in your bladder?

never	0
occasionally	1

sometimes	2
most of the time	3
all of the time	4

6b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10

NOT AT AL A GREAT DEAL

7a. Does urine leak when you cough or sneeze?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

7b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10

NOT AT AL A GREAT DEAL

8a. Do you ever leak for no obvious reason and without feeling that you want to go?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

8b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10

NOT AT AL A GREAT DEAL

9a. Is there a delay before you can start to urinate?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

9b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

10a. Do you have to strain to start urinating?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

10b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

11a. Do you have to strain to continue urinating?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

11b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

12a. Do you usually urinate standing up or sitting down?

standing up	0
sitting down	1

12b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

13a. Would you say that the strength of your urinary stream is…

normal	0
occasionally reduced	1
sometimes reduced	2
reduced most of the time	3
reduced all of the time	4

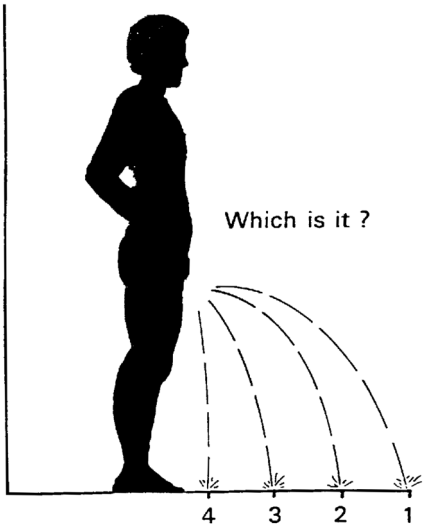
13b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

14. Do you think you have always had a weak stream?

no	0
yes	1

15. Would you say that the strength of your urinary stream is...
(please ring one number)



(from Peeling, 1989)

16a. Do you stop and start more than once while you urinate?

normal	0
occasionally reduced	1
sometimes reduced	2
reduced most of the time	3
reduced all of the time	4

16b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

17a. Do you have a burning feeling when you urinate?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

17b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

18a. How often do you feel that your bladder has not emptied properly after you have urinated?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

18b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

19a. Does your urine stream end with a dribble?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

19b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

20a. How often have you had a slight wetting of your pants a few minutes after you had finished urinating and had dressed yourself?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

20b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

21a. Do you leak urine when you are asleep?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

21b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

22a. If you leak urine during the day, do you have to change your clothes or wear pads?

no, urine does not leak	0
yes, change underpants	1
yes, change clothes	2
I wear pads	3

22b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

23a. Do you have to urinate again (within 15 minutes) after you thought you had finished urinating?

never	0
occasionally	1
sometimes	2
most of the time	3
all of the time	4

23b. How much does this bother you?
Please ring a number between 0 (not at all) and 10 (a great deal)

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

24. Have you ever blocked up completely so that you could not urinate at all and had to have a catheter passed to drain the bladder ?

no	0
yes, once	1
yes, twice	2
yes, more than twice	3

References:

Donovan J, Peters T, Abrams P, Brooks S, de la Rosette J, Schafer W. Scoring the short form ICSmale SF questionnaire. J Urol. 2000; 164(6):1948-1955

ICIQ-OAB (ICIQ-OAB)

For the following questions, please think about your overall urinary symptoms in the past 4 weeks and how these symptoms have affected your life. Please answer each question about how often you have felt this way to the best of your ability. Please tick the box that best answers each question.

1. Please write in your date of birth:

DAY MONTH YEAR

2. Are you (tick one): ☐ **Female** ☐ **Male**

DURING THE PAST FOUR WEEKS,
HOW OFTEN HAVE YOUR BLADDER SYMPTOMS…

3. Made you carefully plan your journey?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

4. Caused you to feel drowsy or sleepy during the day?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

5. Caused you to plan "escape routes" to toilets in public places?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

6. Caused you distress?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

7. Frustrated you?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

8. Made you feel like there is something wrong with you?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

9. Interfered with your ability to get a good night's rest?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

10. Caused you to decrease your physical activities (exercising, sports, etc.)?
none of the time

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

11. Prevented you from feeling rested upon waking in the morning?
none of the time

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

12. Frustrated your family and friends?
none of the time

none of the time	1
a little of the time	2
some of the time	3

a good bit of the time	4
most of the time	5
all of the time	6

13. Caused you anxiety or worry?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

14. Caused you to stay home more often than you would prefer?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

15. Caused you to adjust your travel plans so that you are always near a toilet?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

16. Made you avoid activities away from toilets (i.e., walks, running, hiking)?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

17. Made you frustrated or annoyed about the amount of time you spend in the toilet?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

18. Awakened you during sleep?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

19. Made you worry about odour or hygiene?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

20. Made you uncomfortable while travelling with others because of needing to stop for a toilet?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

21. Affected your relationships with family and friends?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

22. Caused you to decrease participating in social gatherings, such as parties or visits with family or friends?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

23. Caused you embarrassment?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

24. Interfered with getting the amount of sleep you needed?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

25. Caused you to have problems with your partner or spouse?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

26. Caused you to plan activities more carefully?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

27. Caused you to locate the closest toilet as soon as you arrive at a place you have never been?

none of the time	1
a little of the time	2
some of the time	3
a good bit of the time	4
most of the time	5
all of the time	6

28. Overall, how much do your urinary symptoms interfere with your every-day life?

Please ring a number between 0

0	1	2	3	4	5	6	7	8	9	10
NOT AT AL										A GREAT DEAL

References:

1. Donovan J, Abrams P, Peters T, Kay H, Reynard J, Chapple C, de la Rosette J, Kondo A. The ICS-'BPH' study: the psychometric validity and reliability of the ICSmale questionnaire. BJU. 1996; 77:554-562

2. Jackson , S., Donovan, J., Brookes, S., Eckford, S., Swithinbank, L., & Abrams, P. The Bristol Female Lower Urinary Tract Symptoms questionnaire: development and psychometric testing. BJU . 1996; 77:805-812

SCOPA-PC (SCOPA-PC)

The proposed questions are used to introduce the psychiatric complications, ask for more details or examples to clarify whether the problem is present or not, and if so, to what degree.

The following symptoms can occur due to side-effects of anti-parkinsonian medication. Did any of the following symptoms occur during the last month? (Ask patient and caregiver).

1. Hallucinations

Did you perceive (see, hear, feel, smell) things that you knew were not there or that other people didn't perceive? When you perceived it, did you realize it was not real? Did you sometimes act upon these phenomena (for instance tried to touch it)? Did these phenomena scare you? Did you get agitated or aggressive when you noticed these phenomena or when someone tried to convince you they were not real?

For the caregiver: *do you have the impression the patient perceived phenomena that were not there, for instance, did (s)he talk to people that were not there? Did (s)he know it was not real or could you convince him/her that it was not real? Did (s)he get agitated or aggressive when (s)he perceived these phenomena?*

0 absent
1 mild; complete insight; non-threatening
2 moderate; partial insight; can be convinced; may be threatening
3 severe; no insight; cannot be convinced; may be associated with heightened emotional tone, agitation, aggression.

2. Illusions and Misidentification of persons

Did you perceive (see, hear) things differently then they really were (for instance a person instead of a tree, a bug instead of a crumb)? When you perceived them, did you realize it was not real? Did you sometimes act upon these phenomena (for instance tried to touch them)? Did these phenomena scare you? Did you get agitated or aggressive when you noticed these phenomena or when someone tried to convince you they were not real?

For the caregiver: *do you have the impression the patient perceived phenomena differently, for instance, did (s)he wave to a tree or picked up a crumb saying it is bug? Did (s)he know it was not real or could you convince him/her that it was not real? Did (s)he get agitated or aggressive when he perceived these phenomena?*

0 absent
1 mild; complete insight; non-threatening
2 moderate; partial insight; can be convinced; may be threatening
3 severe; no insight; cannot be convinced; may be associated with heightened emotional tone, agitation, aggression.

3. Paranoid Ideation (persecutory and/or jealous type):

Were you more suspicious or jealous then you should be? (For instance were you convinced that people were having "bad thoughts" about you, that people were stealing from you). Did you wrongfully accuse people? Did these thoughts make you more tense or aggressive?

For the caregiver: *do you have the impression the patient had ideas that were not true, for instance accused you wrongfully of infidelity? Could you convince him/her that the ideas were false? Did (s)he get aggressive or refused to cooperate because of these ideas?*

0 absent
1 mild; associated with suspiciousness
2 moderate; associated with tension and excitement
3 severe; accusations of persons, aggression and/or lack of cooperation (i.e. refusal to eat and/or take medication).

4. Altered dream phenomena:

Did you dream more then you used to? Do you recall vivid or unpleasant dreams? Has someone told you that you moved, talked or screamed while sleeping? Were you aware of having had a dream when you woke up, were you afraid, agitated or confused?

For the caregiver: *have you noticed that the patient was dreaming? Did (s)he move, talk or scream while sleeping? Was (s)he afraid, agitated or confused when waking up?*

0 absent
1 mild; vivid dreams; restless sleep (moving or talking in sleep); may be associated with anxiety
2 moderate; associated with feeling of danger
3 severe; associated with agitation and confusion.

5. Confusion (impaired attention, memory, orientation in time, place or person, or incoherence of speech)

Were you able to think as clearly as you used to? Were you able to concentrate? (on a book or a conversation?) How was your memory? (Did you forget what you were doing?) How was your orientation? (Did you always know where you were, could you find your way; did you know what day/month it was or whether it was morning or evening; did you always know who a familiar person was). How coherent was your speech (Did you sometimes stop when talking because you couldn't focus on the topic or made an illogical switch to another subject?)

For the caregiver: *do you have the impression the patient had difficulties with concentration, memory, orientation or speech?*

0 absent
1 mild; mildly impaired awareness of environment or mildly impaired attention; may have some problems with memory, orientation, or incoherence of speech
2 moderate; considerably impaired awareness of environment; impaired attention; may have considerable problems with memory, orientation, or incoherence of speech
3 severe; unaware of environment, unable to focus, sustain, or shift attention; may have severe problems with memory, orientation, or incoherence of speech.

6. Sexual Preoccupation

Did you dream or think more about sex or did your sex drive increase? Did you get angry or aggressive when your desires couldn't be fulfilled?

For the caregiver: *do you have the impression the patient is more occupied by sexual thoughts or that his/her sex drive has increased? Did (s)he get angry or aggressive when his/her desires couldn't be fulfilled?*

0 absent
1 mild; increased sexual thoughts, dreams
2 moderate; increased demand for sexual activity
3 severe; violent sexual impulsiveness.

7. Compulsive behavior (shopping/ gambling):

Are your thoughts more occupied by a desire to shop or gamble? Did you spend more time or money on shopping or gambling? Was it difficult to control your thoughts or behavior? Did this behavior lead to financial problems or problems in daily life?

For the caregiver: *Do you have the impression the patient thought more about shopping or gambling? Did (s)he spend more time or money on shopping or gambling? Was it difficult for him/her to control the thoughts or behavior? Did this behavior lead to financial problems or problems in daily life?*

0 absent
1 mild; mildly increased thoughts or time spent shopping or gambling, some control over thoughts and behavior, no financial problems
2 moderate; increased time or money spent by shopping or gambling, hard to resist, disturbs daily life
3 severe, extreme time and money spent by shopping or gambling/financial problems, unsuccessful to control, severe problems in daily life

Montreal Cognition Assessment (MOCA)

The Montreal Cognitive Assessment (MoCA) was designed as a rapid screening instrument for mild cognitive dysfunction. It assesses different cognitive domains: attention and concentration, executive functions, memory, language, visuoconstructional skills, conceptual thinking, calculations, and orientation. Time to administer the MoCA is approximately 10 minutes. The total possible score is 30 points; a score of 26 or above is considered normal.

Instructions:

Please find some examples of MOCA-templates at page 102 – 104.

1. **Alternating Trail Making:**

The examiner instructs the subject: "*Please draw a line, going from a number to a letter in ascending order. Begin here [point to (1)] and draw a line from 1 then to A then to 2 and so on. End here [point to (E)].*"

Scoring: Allocate one point if the subject successfully draws the following pattern:

1 – A – 2 – B – 3 – C – 4 – D – 5 – E, without drawing any lines that cross. Any error that is not immediately self-corrected earns a score of 0.

2. **Visuoconstructional Skills (Cube):**

The examiner gives the following instructions, pointing to the cube: *"Copy this drawing as accurately as you can, in the space below".*

Scoring: One point is allocated for a correctly executed drawing.

- Drawing must be three-dimensional
- All lines are drawn
- No line is added
- Lines are relatively parallel and their length is similar (rectangular prisms are accepted)

A point is not assigned if any of the above-criteria are not met.

3. **Visuoconstructional Skills (Clock):**

Indicate the right third of the space and give the following instructions:
"Draw a clock. Put in all the numbers and set the time to 10 past 11".

Scoring: One point is allocated for each of the following three criteria:

- *Contour (1 pt.): the clock face must be a circle with only minor distortion acceptable (e.g., slight imperfection on closing the circle);*
- *Numbers (1 pt.): all clock numbers must be present with no additional numbers; numbers must be in the correct order and placed in the approximate quadrants on the clock face; Roman numerals are acceptable; numbers can be placed outside the circle contour*
- *Hands (1 pt.): there must be two hands jointly indicating the correct time; the hour hand must be clearly shorter than the minute hand; hands must be centred within the clock face with their junction close to the clock centre.*

A point is not assigned for a given element if any of the above-criteria are not met.

4. **Naming:**

Beginning on the left, point to each figure and say: *"Tell me the name of this animal"*

Scoring: One point each is given for the following responses: (1) lion (2) rhinoceros or rhino (3) camel or dromedary.

5. **Memory:**

The examiner reads a list of 5 words at a rate of one per second, giving the following instructions: "This is a memory test. I am going to read a list of words that you will have to remember now and later on. Listen carefully. When I am through, tell me as many words as you can remember. It doesn't matter in what order you say them".

Mark a check in the allocated space for each word the subject produces on this first trial. When the subject indicates that (s)he has finished (has recalled all words), or can recall no more words, read the list a second time with the following instructions: *"I am going to read the same list for a second time. Try to remember and tell me as many words as you can, including words you said the first time."* Put a check in the allocated space for each word the subject recalls after the second trial.

At the end of the second trial, inform the subject that (s)he will be asked to recall these words again by saying, *"I will ask you to recall those words again at the end of the test."*

Scoring: No points are given for Trials One and Two.

6. **Attention:**

Forward Digit Span: Give the following instruction: *"I am going to say some numbers and when I am through, repeat them to me exactly as I said them"*.

Read the five number sequence at a rate of one digit per second.

Backward Digit Span: Give the following instruction: *"Now I am going to say some more numbers, but when I am through you must repeat them to me in the backwards order."* Read the three number sequence at a rate of one digit per second.

Scoring: Allocate one point for each sequence correctly repeated, (N.B.: the correct response for the backwards trial is 2–4–7).

Vigilance: The examiner reads the list of letters at a rate of one per second, after giving the following instruction: *"I am going to read a sequence of letters. Every time I say the letter A, tap your hand once. If I say a different letter, do not tap your hand"*.

Scoring: Give one point if there is zero to one errors (an error is a tap on a wrong letter or a failure to tap on letter A).

Serial 7s: The examiner gives the following instruction: *"Now, I will ask you to count by subtracting seven from 100, and then, keep subtracting seven from your answer until I tell you to stop."* Give this instruction twice if necessary.

Scoring: This item is scored out of 3 points. Give no (0) points for no correct subtractions, 1 point for one correction subtraction, 2 points for two-to-three correct subtractions, and 3 points if the participant successfully makes four or five correct subtractions. Count each correct subtraction of 7 beginning at 100. Each subtraction is evaluated independently; that is, if the participant responds with an incorrect number but continues to correctly subtract 7 from it, give a point for each correct subtraction. For example, a participant may respond *"92–85 – 78–71 – 64"* where the *"92"* is incorrect, but all subsequent numbers are subtracted correctly. This is one error and the item would be given a score of 3.

7. **Sentence repetition:**

The examiner gives the following instructions: *"I am going to read you a sentence. Repeat it after me, exactly as I say it [pause]: I only know that John is the one to help today."*

Following the response, say: *"Now I am going to read you another sentence. Repeat it after me, exactly as I say it [pause]: The cat always hid under the couch when dogs were in the room."*

Scoring: Allocate 1 point for each sentence correctly repeated. Repetition must be exact. Be alert for errors that are omissions (e.g., omitting "only", "always") and substitutions/additions (e.g., "John is the one who helped today;" substituting "hides" for "hid", altering plurals, etc.).

8. **Verbal fluency:**

The examiner gives the following instruction: *"Tell me as many words as you can think of that begin with a certain letter of the alphabet that I will tell you in a moment. You can say any kind of word you want, except for proper nouns (like Bob or Boston), numbers, or words that begin with the same sound but have a different suffix, for example, love, lover, loving. I will tell you to stop after one minute. Are you ready? [Pause] Now, tell me as many words as you can think of that begin with the letter F. [time for 60 sec]. Stop."*

Scoring: Allocate one point if the subject generates 11 words or more in 60 sec. Record the subject's response in the bottom or side margins.

9. **Abstraction:**

The examiner asks the subject to explain what each pair of words has in common, starting with the example: *"Tell me how an orange and a banana are alike"*. If the subject answers in a concrete manner, then say only one additional time: *"Tell me another way in which those items are alike"*. If the subject does not give the appropriate response (fruit), say, "*Yes, and they are also both fruit."* Do not give any additional instructions or clarification. After the practice trial, say: *"Now, tell me how a train and a bicycle are alike*". Following the response, administer the second trial, saying: *"Now tell me how a ruler and a watch are alike"*. Do not give any additional instructions or prompts.

Scoring: Only the last two item pairs are scored. Give 1 point to each item pair correctly answered.

- The following responses are acceptable:
  Train-bicycle = means of transportation, means of travelling, you take trips in both; Ruler-watch = measuring instruments, used to measure.
- The following responses are not acceptable:
  Train-bicycle = they have wheels; Rulerwatch= they have numbers.

10. **Delayed recall:**

The examiner gives the following instruction: *"I read some words to you earlier, which I asked you to remember. Tell me as many of those words as you can remember."* Make a check mark (√) for each of the words correctly recalled spontaneously without any cues, in the allocated space.

Scoring: Allocate 1 point for each word recalled freely without any cues.

Optional: Following the delayed free recall trial, prompt the subject with the semantic category cue provided below for any word not recalled. Make a check mark (√) in the allocated space if the subject remembered the word with the help of a category or multiple-choice cue. Prompt all non-recalled words in this manner. If the subject does not recall the word after the category cue, give him/her a multiple choice trial, using the following example instruction, "Which of the following words do you think it was, NOSE, FACE, or HAND?"

Use the following category and/or multiple-choice cues for each word, when appropriate:

FACE:	**category cue:** part of the body	**multiple choice:** nose, face, hand
VELVET:	**category cue:** type of fabric	**multiple choice:** denim, cotton, velvet
CHURCH:	**category cue:** type of building	**multiple choice:** church, school, hospital
DAISY:	**category cue:** type of flower	**multiple choice:** rose, daisy, tulip
RED:	**category cue:** a color	**multiple choice:** red, blue, green

Scoring: No points are allocated for words recalled with a cue. A cue is used for clinical information purposes only and can give the test interpreter additional information about the type of memory disorder. For memory deficits due to retrieval failures, performance can be improved with a cue.

11. **Orientation:**

The examiner gives the following instructions: *"Tell me the date today"*. If the subject does not give a complete answer, then prompt accordingly by saying: *"Tell me the [year, month, exact date, and day of the week]."* Then say: *"Now, tell me the name of this place, and which city it is in."*

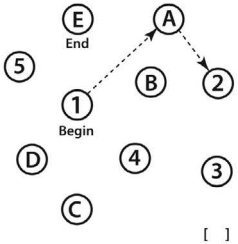
Scoring: Give one point for each item correctly answered. The subject must tell the exact date and the exact place (name of hospital, clinic, office). No points are allocated if subject makes an error of one day for the day and date.

TOTAL SCORE: Sum all subscores listed on the right-hand side. Add one point for an individual who has 12 years or fewer of formal education, for a possible maximum of 30 points. A final total score of 26 and above is considered normal.

MONTREAL COGNITIVE ASSESSMENT (MOCA)
Version 7.1 Original Version

NAME :
Education : Date of birth :
Sex : DATE :

VISUOSPATIAL / EXECUTIVE



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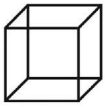
Copy cube



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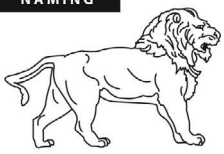
Draw CLOCK (Ten past eleven)
(3 points)

[ ] Contour [ ] Numbers [ ] Hands

POINTS __/5

NAMING



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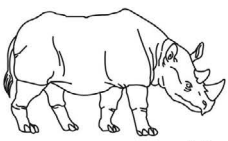

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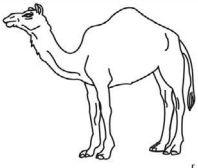

[ ]

__/3

MEMORY Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.

	FACE	VELVET	CHURCH	DAISY	RED
1st trial					
2nd trial					

No points

ATTENTION Read list of digits (1 digit/ sec.).

Subject has to repeat them in the forward order [ ] 2 1 8 5 4
Subject has to repeat them in the backward order [ ] 7 4 2

__/2

Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors

[ ] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B

__/1

Serial 7 subtraction starting at 100 [ ] 93 [ ] 86 [ ] 79 [ ] 72 [ ] 65

4 or 5 correct subtractions: **3 pts**, 2 or 3 correct: **2 pts**, 1 correct: **1 pt**, 0 correct: **0 pt**

__/3

LANGUAGE Repeat : I only know that John is the one to help today. [ ]
The cat always hid under the couch when dogs were in the room. [ ]

__/2

Fluency / Name maximum number of words in one minute that begin with the letter F [ ] _____ (N ≥ 11 words)

__/1

ABSTRACTION Similarity between e.g. banana - orange = fruit [ ] train – bicycle [ ] watch - ruler

__/2

DELAYED RECALL

	Has to recall words WITH NO CUE	FACE [ ]	VELVET [ ]	CHURCH [ ]	DAISY [ ]	RED [ ]	Points for UNCUED recall only
Optional	Category cue						
	Multiple choice cue						

__/5

ORIENTATION [ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City

__/6

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Normal ≥ 26 / 30

TOTAL __/30

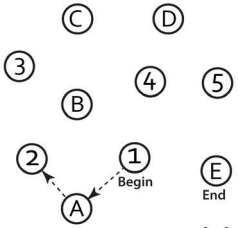
Add 1 point if ≤ 12 yr edu

Administered by: _____

MONTREAL COGNITIVE ASSESSMENT (MOCA)
Version 7.2 Alternative Version

NAME :
Education : Date of birth :
Sex : DATE :

VISUOSPATIAL / EXECUTIVE



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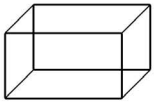
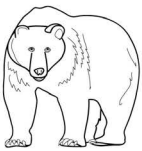


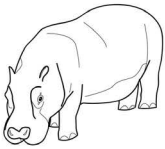
Draw CLOCK (Five past four)
(3 points)

[ ] Contour [ ] Numbers [ ] Hands

POINTS __/5

NAMING





[ ] [ ] [ ] __/3

MEMORY

Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.

	TRUCK	BANANA	VIOLIN	DESK	GREEN
1st trial					
2nd trial					

No points

ATTENTION

Read list of digits (1 digit/ sec.).
Subject has to repeat them in the forward order [ ] 3 2 9 6 5
Subject has to repeat them in the backward order [ ] 8 5 2 __/2

Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors
[ ] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B __/1

Serial 7 subtraction starting at 90 [ ] 83 [ ] 76 [ ] 69 [ ] 62 [ ] 55
4 or 5 correct subtractions: **3 pts**, 2 or 3 correct: **2 pts**, 1 correct: **1 pt**, 0 correct: **0 pt** __/3

LANGUAGE

Repeat : A bird can fly into closed windows when it's dark and windy. [ ]
The caring grandmother sent groceries over a week ago. [ ] __/2

Fluency / Name maximum number of words in one minute that begin with the letter S [ ] _____ (N ≥ 11 words) __/1

ABSTRACTION

Similarity between e.g. carrot - potato = vegetable. [ ] diamond - ruby [ ] cannon - rifle __/2

DELAYED RECALL

	Has to recall words WITH NO CUE	TRUCK	BANANA	VIOLIN	DESK	GREEN	Points for UNCUED recall only
		[ ]	[ ]	[ ]	[ ]	[ ]	
Optional	Category cue						
	Multiple choice cue						

__/5

ORIENTATION

[ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City __/6

Adapted by : Z. Nasreddine MD, N. Phillips PhD, H. Chertkow MD
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Normal ≥ 26 / 30

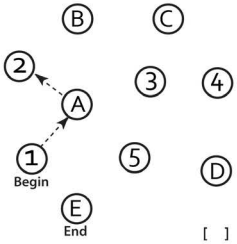
TOTAL __/30
Add 1 point if ≤ 12 yr edu

Administered by: _____

MONTREAL COGNITIVE ASSESSMENT (MOCA)
Version 7.3 Alternative Version

NAME :
Education : Date of birth :
Sex : DATE :

VISUOSPATIAL / EXECUTIVE



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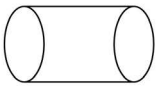
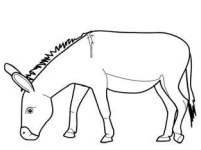


Draw CLOCK (Ten past nine)
(3 points)

[ ] Contour [ ] Numbers [ ] Hands

POINTS __/5

NAMING



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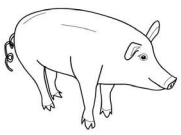

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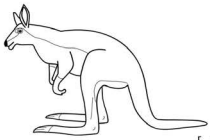

[ ]

__/3

MEMORY

Read list of words, subject must repeat them. Do 2 trials, even if 1st trial is successful. Do a recall after 5 minutes.

	TRAIN	EGG	HAT	CHAIR	BLUE
1st trial					
2nd trial					

No points

ATTENTION

Read list of digits (1 digit/ sec.). Subject has to repeat them in the forward order [ ] 5 4 1 8 7

Subject has to repeat them in the backward order [ ] 1 7 4

__/2

Read list of letters. The subject must tap with his hand at each letter A. No points if ≥ 2 errors

[ ] F B A C M N A A J K L B A F A K D E A A A J A M O F A A B

__/1

Serial 7 subtraction starting at 80 [ ] 73 [ ] 66 [ ] 59 [ ] 52 [ ] 45

4 or 5 correct subtractions: **3 pts**, 2 or 3 correct: **2 pts**, 1 correct: **1 pt**, 0 correct: **0 pt**

__/3

LANGUAGE

Repeat : She heard his lawyer was the one to sue after the accident. [ ]

The little girls who were given too much candy got stomach aches. [ ]

__/2

Fluency / Name maximum number of words in one minute that begin with the letter B [ ] _____ (N ≥ 11 words)

__/1

ABSTRACTION

Similarity between e.g. banana - orange = fruit [ ] eye – ear [ ] trumpet – piano

__/2

DELAYED RECALL

	Has to recall words WITH NO CUE	TRAIN	EGG	HAT	CHAIR	BLUE	Points for UNCUED recall only
		[ ]	[ ]	[ ]	[ ]	[ ]	
Optional	Category cue						
	Multiple choice cue						

__/5

ORIENTATION

[ ] Date [ ] Month [ ] Year [ ] Day [ ] Place [ ] City

__/6

Adapted by : Z. Nasreddine MD, N. Phillips PhD, H. Chertkow MD
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Normal ≥ 26 / 30

TOTAL __/30

Add 1 point if ≤ 12 yr edu

Administered by: _____

Interpretation:

	Normal Controls (NC)	Mild Cognitive Impairment (MCI)	Alzheimer's Disease (AD)
Number of subjects	90	94	93
MoCA average score	27.4	22.1	16.2
MoCA standard deviation	2.2	3.1	4.8
MoCA score range	25.9–29.6	19.0–25.2	21.0–11.4
Suggested cut-off score	≥26	<26	<26Ψ

Although the average MoCA score for the AD group is much lower than the MCI group, there is overlap between them. The suggested MoCA cut-off score is thus the same for both. The distinction between AD and MCI is mostly dependent on the presence of associated functional impairment and not on a specific score on the MoCA test.

Strengths: The most widely used scale to detect post-TBI-cognition problems.

Approximate time of the test: 10 minutes.

References:

Pendlebury ST et al. Stroke Journal of the American Heart Association 2010; 41 (6): 1290-1293.

Nasreddine ZS et al. Journal of the American Geriatrics Society 2005; 53 (4): 695-699.

Trail Making test (...)

Part A

Sample A: *"There are numbers in circles on this page. Please take the pencil and draw a line from one number to the next, in order. Start at 1 [point to the number], then go to 2 [point], then go to 3 [point], and so on. Please try not to lift the pen as you move from one number to the next. Work as quickly and accurately as you can."*

If there is an error: *"You were at number 2. What is the next number?" Wait for the subject's response and say, "*please start here and continue."

Test A: If Sample A is completed correctly. Repeat the above instructions. Start timing as soon as the instruction id given to begin. Stop timing when the Trail is completed, or when maximum time is reached (150 seconds = 2.5 min).

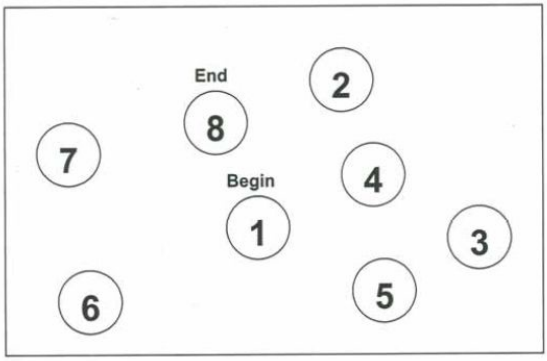
Part B

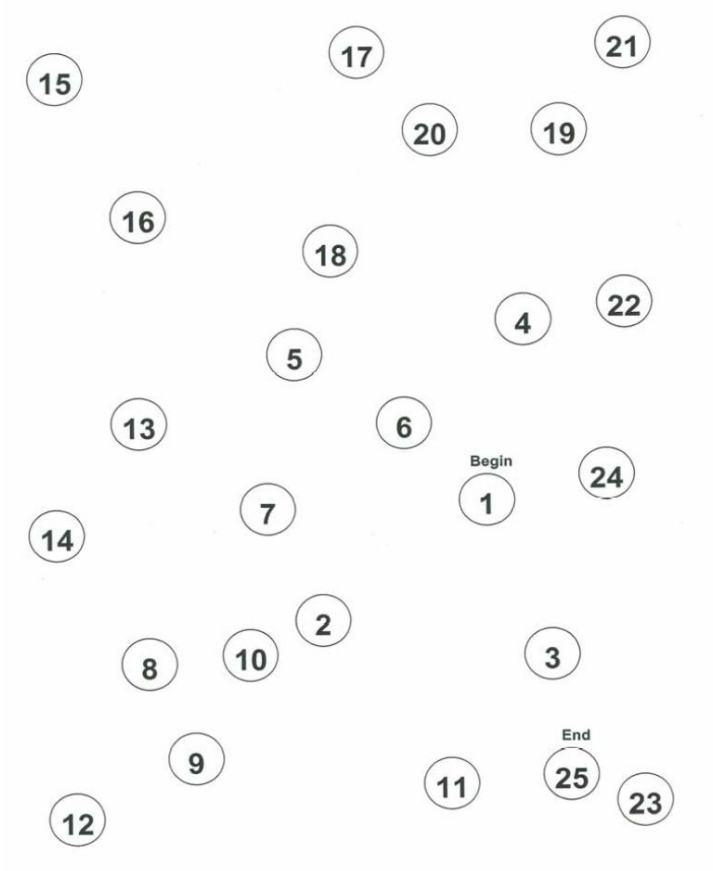
Sample B: "There are numbers and letters in circles on this page. Please take the pen and draw a line, alternating in order between the numbers and letters. Start at number 1 [point], then go to the first letter, A [point], then go to the next number, 2 [point], and then the next letter, B [point], and so on. Please try not to lift the pen as you move from one number or letter to the next. Work as quickly and accurately as you can."

If there is an error: *"You were at number 2. What is the next letter?"* Wait for the subject's response and say, "please start here and continue."

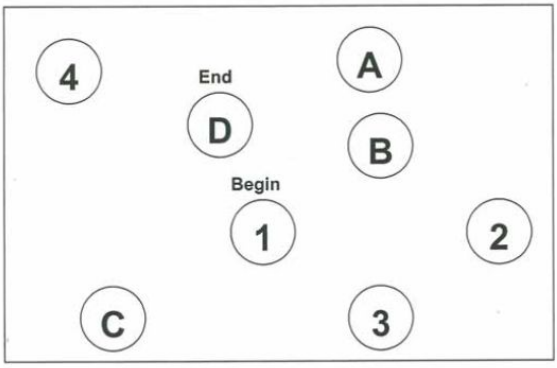
Test B: If Sample B is completed correctly. Repeat the above instructions. Start timing as soon as the instruction id given to begin. Stop timing when the Trail is completed, or when maximum time is reached (300 seconds = 5 min).

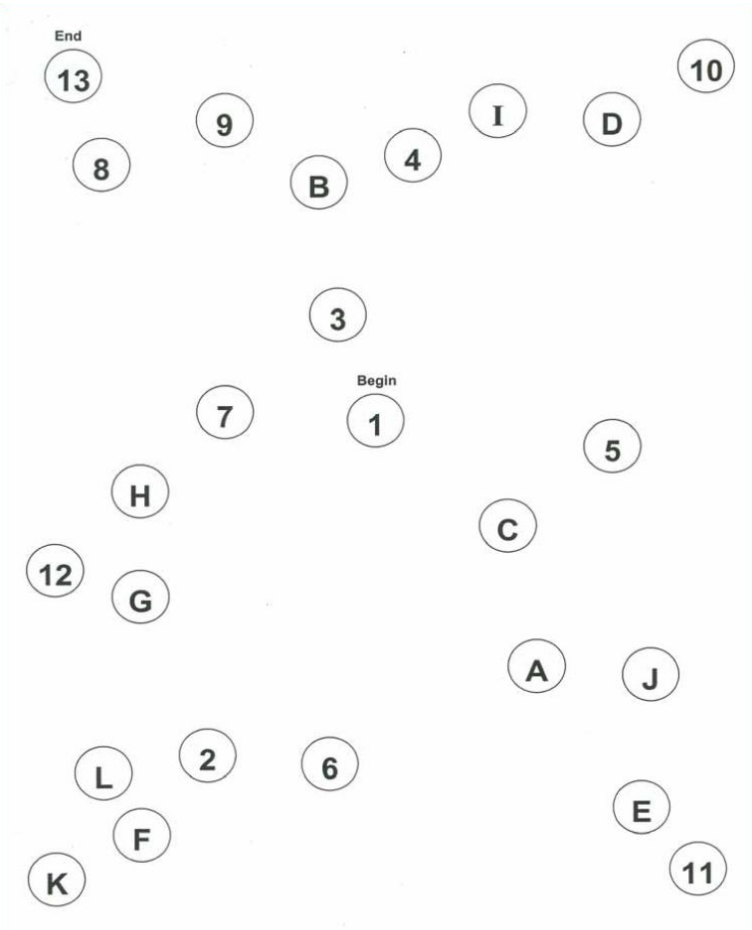
Sample A




15
17
21
20
19
16
18
22
4
5
13
6
Begin
24
1
7
14
2
8
10
3
End
9
25
11
23
12

Sample B





References

Tombaugh, T. N. (2004). Trail Making Test A and B: normative data stratified by age and education. Archives of clinical neuropsychology, 19(2), 203-214.

Clock Drawing Test (...)

This test provides a quick screening test for cognitive dysfunction (frontal and temporo-parietal functioning) secondary to dementia, delirium, or a range of neurological and psychiatric illnesses. It is a component of the mini-cog assessment, also serving the function of distracter for the three-word recall.

General Information: Provide the patient with an 8.5 x 11-in. blank sheet of paper and a pencil.

Set-up: Equipment required includes a blank sheet of paper, a sheet of paper with a clock on one side, a pen, and a chair/table for ease of drawing.

Time to Administer: 1–2 minutes

Type: Standardized screening instrument

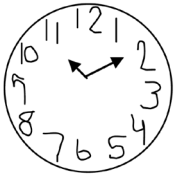
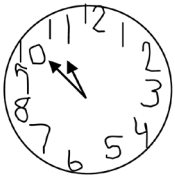
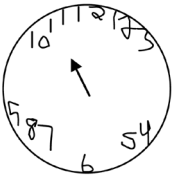
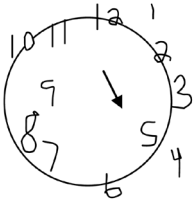
Setting: A variety of settings including primary care, acute care, community, outpatient/ rehab, and long-term care. It is particularly useful in general practice.

Administration

1. Provide individual with a piece of paper with a pre-drawn circle of approximately 10 cm in diameter.
2. Indicate that the circle represents the face of a clock and ask the individual to put in the numbers so that it looks like a clock
3. Ask the individual to add arms so that the clock indicates the time “ten minutes after eleven”

These instructions can be repeated but no additional instructions should be given. Give the individual as much time as needed to complete the task.

Interpretation

NORMAL	ABNORMAL		
	Mild	Moderate	Severe
			
Mild irregularities of number placement are acceptable as normal	Commonly, early dementia is associated with drawing hands towards the 11 and 10; this perseveration towards 10 is an example of problems with executive function	Abnormalities of number and hand placement	Severe abnormalities
*The odds ratio for cognitive impairment with abnormal clock drawing is 24X			

References

http://www.sagelink.ca/sites/default/files/uploads/tools/ClockDrawingTest.pdf

notes

QoL
(Quality of Life)

Parkinson´s Impact Scale (PIMS)

- Please indicate by a number (0 – 4) what impact Parkinsonism has had on your life: 0 = no change; 1 = slight; 2 = moderate; 3 = moderately severe; 4 = severe
- Use the definitions below to help you to measure impact:

Self (Positive)	refers to how positive you fee/ about yourself (self-worth, happiness, optimism)
Self: (Negative)	refers to how negative you fee/ about yourself (level of stress, anxiety or depression)
Family Relationships	refers to your spouse, partner, chi/dren and relatives that you consider part of your immediate family
Community Relationships	refers to your neighbours, friends, peop/e you work with and those who provide you with services (store clerk, doctor, pastor, etc.)
Work	refers to your job and/or the running of your home and your ability to support yourself and your family
Travel	refers to your ability to reach your destinations i.e.: work and/or social
Leisure	refers to your ability to continue enjoyable activities (hobbies, sports, volunteering)
Safety	refers to your ability to do what you want without injuring yourself or others (driving, being outdoors, in the kitchen, in the bathroom, etc.)
Finandal Security	refers to your ability to support yourself and your family and pay your medica/ costs
Sexuality	refers to your ability to maintain a satisfactory sexua/ relationship

- if your symptoms are stable complete column 1
- if your symptoms fluctuate complete columns 2a and 2b (best and worst)

		Column 1	Column 2a (Best)	Column 2b (Worst)
1	**Self-positive**			
2	**Self-negative**			
3	**Family Relationships**			
4	**Community Relationships**			
5	**Work**			
6	**Travel**			
7	**Leisure**			
8	**Safety**			
9	**Financial Security**			
10	**Sexuality**			

This scale has been developed with the support of The Parkinson Foundation of Canada and the Canadian office of DuPont Pharma Inc.

References

Calne S, Schulzer M, Mak E, et al. Validating a quality of life Rating Scale for Idiopathic Parkinsonism: Parkinson's Impact Scale (PIMS). Parkinsonism Relat Disord. 1996; 2: 55-61

Parkinson's Disease Quality of Life Questionnaire (PDQ-39)

Due to having Parkinson's disease, how often **during the last month** have you…

	Please **tick one box** for each question	**Never**	**Occasionally**	**Sometimes**	**Often**	**Always** or cannot do at all
1	Had difficulty doing the leisure activities which you would like to do?	☐	☐	☐	☐	☐
2	Had difficulty looking after your home, e.g. DIY, housework, cooking?	☐	☐	☐	☐	☐
3	Had difficulty carrying bags of shopping?	☐	☐	☐	☐	☐
4	Had problems walking half a mile?	☐	☐	☐	☐	☐
5	Had problems walking 100 yards?	☐	☐	☐	☐	☐
6	Had problems getting around the house as easily as you would like?	☐	☐	☐	☐	☐
7	Had difficulty getting around in public?	☐	☐	☐	☐	☐
8	Needed someone else to accompany you when you went out?	☐	☐	☐	☐	☐
9	Felt frightened or worried about falling over in public?	☐	☐	☐	☐	☐
10	Been confined to the house more than you would like?	☐	☐	☐	☐	☐
11	Had difficulty washing yourself?	☐	☐	☐	☐	☐
12	Had difficulty dressing yourself?	☐	☐	☐	☐	☐
13	Had problems doing up buttons or shoe laces?	☐	☐	☐	☐	☐
14	Had problems writing clearly?	☐	☐	☐	☐	☐
15	Had difficulty cutting up your food?	☐	☐	☐	☐	☐

	Please **tick one box** for each question	**Never**	**Occasionally**	**Sometimes**	**Often**	**Always** or cannot do at all
16	Had difficulty holding a drink without spilling it?	☐	☐	☐	☐	☐
17	Felt depressed?	☐	☐	☐	☐	☐
18	Felt isolated and lonely?	☐	☐	☐	☐	☐
19	Felt weepy or tearful?	☐	☐	☐	☐	☐
20	Felt angry or bitter?	☐	☐	☐	☐	☐
21	Felt anxious?	☐	☐	☐	☐	☐
22	Felt worried about your future?	☐	☐	☐	☐	☐
23	Felt you had to conceal your Parkinson's from people?	☐	☐	☐	☐	☐
24	Avoided situations which involve eating or drinking in public?	☐	☐	☐	☐	☐
25	Felt embarrassed in public due to having Parkinson's disease?	☐	☐	☐	☐	☐
26	Felt worried by other people's reaction to you?	☐	☐	☐	☐	☐
27	Had problems with your close personal relationships?	☐	☐	☐	☐	☐
28	Lacked support in the ways you need from your spouse or partner? If you do not have a spouse or partner, please tick here ☐	☐	☐	☐	☐	☐
29	Lacked support in the ways you need from your family or close friends?	☐	☐	☐	☐	☐
30	Unexpectedly fallen asleep during the day?	☐	☐	☐	☐	☐
31	Had problems with your concentration, e.g. when reading or watching TV?	☐	☐	☐	☐	☐
32	Felt your memory was bad?	☐	☐	☐	☐	☐
33	Had distressing dreams or hallucinations?	☐	☐	☐	☐	☐

	Please **tick one box** for each question	**Never**	**Occasionally**	**Sometimes**	**Often**	**Always** or cannot do at all
34	Had difficulty with your speech?	☐	☐	☐	☐	☐
35	Felt unable to communicate with people properly?	☐	☐	☐	☐	☐
36	Felt ignored by people?	☐	☐	☐	☐	☐
37	Had painful muscle cramps or spasms?	☐	☐	☐	☐	☐
38	Had aches and pains in your joints or body?	☐	☐	☐	☐	☐
39	Felt unpleasantly hot or cold?	☐	☐	☐	☐	☐

Please check that you have ticked **one box for each question**.

References

Chaudhuri KR, Martinez-Martin P, Brown RG, et al. Results from an international pilot study. Mov Disord 2007;22:1901-1911

Parkinson's Disease Quality of Life Questionnaire (PDQ-8)

Due to having Parkinson's disease, how often **during the last month** have you…

	Please **tick one box** for each question	**Never**	**Occasionally**	**Sometimes**	**Often**	**Always** or cannot do at all
1	Had difficulty getting around in public?	☐	☐	☐	☐	☐
2	Had difficulty dressing yourself?	☐	☐	☐	☐	☐
3	Felt depressed?	☐	☐	☐	☐	☐
4	Had problems with your close personal relationships?	☐	☐	☐	☐	☐
5	Had problems with your concentration, e.g. when reading or watching TV?	☐	☐	☐	☐	☐
6	Felt unable to communicate with people properly?	☐	☐	☐	☐	☐
7	Had painful muscle cramps or spasms?	☐	☐	☐	☐	☐
8	Felt embarrassed in public due to having Parkinson's disease?	☐	☐	☐	☐	☐

Please check that you have ticked **one box for each question**.

References

Jenkinson C, Fitzpatrick R, Peto V, Greenhall R, Hyman N. The PDQ-8: development and validation of a short-form Parkinson's disease questionnaire. Psychol Health 1997; 12: 805-814

EuroQual (EQ-5D)

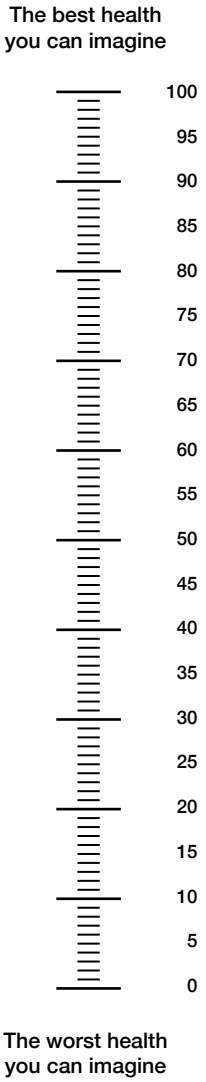
Paper Self-Complete (sample version)

Under each heading, please tick the ONE box that best describes your health TODAY.

MOBILITY	
I have no problems in walking about	☐
I have some problems in walking about	☐
I am confined to bed	☐
SELF-CARE	
I have no problems with self-care	☐
I have some problems washing or dressing myself	☐
I am unable to wash or dress myself	☐
USUAL ACTIVITIES (e.g. work, study, housework, family or leisure activities)	
I have no problems with performing my usual activities	☐
I have some problems with performing my usual activities	☐
I am unable to perform my usual activities	☐
PAIN / DISCOMFORT	
I have no pain or discomfort	☐
I have moderate pain or discomfort	☐
I have extreme pain or discomfort	☐
ANXIETY/ DEPRESSION	
I am not anxious or depressed	☐
I am moderately anxious or depressed	☐
I am extremely anxious or depressed	☐

- We would like to know how good or bad your health is TODAY.
- This scale is numbered from 0 to 100.
- 100 means the best health you can imagine. 0 means the worst health you can imagine.
- Mark an X on the scale to indicate how your health is TODAY.
- Now, please write the number you marked on the scale in the box below.

YOUR HEALTH TODAY



notes

Motor Symptoms

notes

Modified Bradykinesia Rating Scale (MBRS)

Score	Speed	Amplitude	Rhythm
0	Normal	Normal	Regular, no arrests or pauses in ongoing movement
1	Mild slowing	Mild reduction in amplitude in later performance, most movements close to normal	Mild impairment, up to two brief arrests in the 10 seconds, none lasting > 1 second
2	Moderate slowing	Moderate, reduction in amplitude visible early in performance but continues to maintain 50% amplitude through most of the tasks	Moderate, 3 to 4 arrests in 10 seconds; **OR** 1or 2 lasting > 1second
3	Severe slowing	Severe, less than 50% amplitude through most of the task	Severe, 5 or more arrests/10 seconds; **OR** more than 2 lasting > 1 second
4	Can barely perform the task	Can barely perform the task	Can barely perform

References:

MDS; Authors: Asha Kishore, Alberto J. Espay, Connie Marras, Thamer Al-Khairalla, Tamara Arenovich, Abena Asante, Janis Miyasaki, and Anthony E. Lang; 2007

Wearing off 19 Questionnaire (WOQ19)

Please tick in column 1 any symptoms that you currently experience during your normal day. Please also tick the box in column 2 if this symptom usually improves after you take a dose of your Parkinson's medication.

Mary's example

		Experience symptoms	Usually improves after my next dose
1	**Tremor**	☑	☑
2	**Difficulty in speech**	☑	☐
3	**Anxiety**	☐	☐

During her normal day Mary, experiences both tremor and difficulty in speech

But only tremor improves after her next dose of medication

		Experience symptoms	Usually improves after my next dose
1	Tremor	☐	☐
2	Difficulty in speech	☐	☐
3	Anxiety	☐	☐
4	Experience sweating	☐	☐
5	Mood changes	☐	☐
6	Weakness	☐	☐
7	Problems with balance	☐	☐
8	Slowness of movement	☐	☐
9	Reduced dexterity	☐	☐
10	Numbness	☐	☐
11	General stiffness	☐	☐
12	Experience panic attacks	☐	☐
13	Cloudy mind / dullness thinking	☐	☐
14	Abdominal discomfort	☐	☐
15	Musde cramping	☐	☐
16	Difficulty getting out of the chair	☐	☐
17	Experience hot and cold	☐	☐
18	Pain	☐	☐
19	Aching	☐	☐

References
M. Stacy; R. Hauser; Development of a Patient Questionnaire to facilitate recognition of motor and non-motor wearing-off in Parkinson's disease; Published online: August 10, 2006

EVER PD On/Off Diary

Date:	Morning (a.m.)						
Time	6.00 a.m.	7.00 a.m.	8.00 a.m.	9.00 a.m.	10.00 a.m.	11.00 a.m.	
Asleep	☐	☐	☐	☐	☐	☐	
Partial OFF	☐	☐	☐	☐	☐	☐	
Full OFF	☐	☐	☐	☐	☐	☐	
ON with mild dyskinesia	☐	☐	☐	☐	☐	☐	
ON with severe dyskinesia	☐	☐	☐	☐	☐	☐	
ON without dyskinesia	☐	☐	☐	☐	☐	☐	
COMENTS							

References

Example On/Off Diary EVER Pharma

	Afternoon (p.m.)												
	12.00 a.m.	1.00 p.m.	2.00 p.m.	3.00 p.m.	4.00 p.m.	5.00 p.m.	6.00 p.m.	7.00 p.m.	8.00 p.m.	9.00 p.m.	10.00 p.m.	11.00 p.m.	12.00 p.m.
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Abnormal Involuntary Movement Scale (AIMS)

Rating: Clinician-rated

Administration time: 5 minutes

Main purpose: To assess level of dyskinesias in patients taking neuroleptic medications

Population: Adults

Commentary

The AIMS is a 12-item clinician-rated scale to assess severity of dyskinesias (specifically, orofacial movements and extremity and truncal movements) in patients taking neuroleptic medications. Additional items assess the over - all severity, incapacitation, and the patient's level of awareness of the movements,and distress associated with them. The AIMS has been used extensively to assess tardive dyskinesia in clinical trials of anti psychotic medications. Due to its simple design and short assessment time, the AIMS can easily be integrated into a routine clinical evaluation by the clinician or another trained rater.

Scoring

Items are scored on a 0 (none) to 4 (severe) basis; the scale provides a total score (items 1 through 7) or item 8 can be used in isolation as an indication of overall severity of symptoms.

Versions

Modified versions of the AIMS scale have been developed.

Instructions

There are two parallel procedures, the examination procedure, which tells the patient what to do, and the scoring procedure, which tells the clinician how to rate what he or sheobserves.

Examination Procedure

Either before or after completing the examination procedure, observe the patient unobtrusively at rest (e.g., in the waiting room).

The chair to be used in this examination should be a hard, firm one without arms.

1. Ask the patient whether there is anything in his or her mouth (such as gum or candy) and, if so, to removeit.
2. Ask about the 'current' condition of the patient's teeth. Ask if he or she wears dentures. Ask whether teeth or dentures bother the patient'now'.
3. Ask whether the patient notices any movements in his or her mouth, face, hands, or feet. If yes, ask the patient to describe them and to indicate to what extent they 'currently' bother the patient or interfere withactivities.
4. Have the patient sit in the chair with hands on knees, legs slightly apart, and feet flat on floor. (Look at the entire body for movements while the patient is in thisposition.)
5. Ask the patient to sit with hands hanging unsupported – if male, between his legs, if female and wearing a dress, hanging over her knees. (Observe hands and other bodyareas).
6. Ask the patient to open his or her mouth. (Observe the tongue at rest within the mouth.) Do thistwice.
7. Ask the patient to protrude his or her tongue. (Observe abnormalities of tongue movement.) Do thistwice.
8. Ask the patient to tap his or her thumb with each finger as rapidly as possible for 10 to 15 seconds, first with right hand, then with left hand. (Observe facial and leg movements.) [±activated]
9. Flex and extend the patient's left and right arms, one at atime.
10. Ask the patient to stand up. (Observe the patient in profile. Observe all body areas again, hipsincluded.)
11. Ask the patient to extend both arms out in front, palms down. (Observe trunk, legs, and mouth.)[activated]
12. Have the patient walk a few paces, turn, and walk back to the chair. (Observe hands and gait.) Do this twice.[activated]

Scoring Procedure

Complete the examination procedure before making ratings.

For the movement ratings (the first three categories below), rate the highest severity observed. 0 = none, 1 = minimal (may be extreme normal), 2 = mild, 3 = moderate, and 4 = severe. According to the original AIMS instructions, one point is subtracted if movements are seen **only on activation**, but not all investigators follow that convention.

Facial and Oral Movements

1. **Muscles of facial expression,**
   e.g., movements of forehead, eyebrows, periorbital area, cheeks. Include frowning, blinking, grimacing of upper face.
   0 1 2 3 4

2. **Lips and perioralarea,**
   e.g., puckering, pouting, smacking.
   0 1 2 3 4

3. **Jaw,**
   e.g., biting, clenching, chewing, mouth opening, lateral movement.
   0 1 2 3 4

4. **Tongue.**
   Rate only increase in movement both in and out of mouth, not inability to sustain movement.
   0 1 2 3 4

Extremity Movements

5. **Upper (arms, wrists, hands,fingers).**
   Include movements that are choreic (rapid, objectively purposeless, irregular, spontaneous) or athetoid (slow, irregular, complex, serpentine). Do not include tremor (repetitive, regular, rhythmic movements).
   0 1 2 3 4

6. **Lower (legs, knees, ankles,toes),**
   e.g., lateral knee movement, foot tapping, heel dropping, foot squirming, inversion and eversion of foot.
   0 1 2 3 4

Trunk Movements

7. **Neck, shoulders,hips,**
   e.g., rocking, twisting, squirming, pelvic gyrations. Include diaphragmatic

movements.
0 1 2 3 4

Global Judgments

8. **Severity of abnormal movements.**
   0 1 2 3 4
   based on the highest single score on the above items.

9. **Incapacitation due to abnormal movements.**
   0 = none,normal
   1 = minimal
   2 = mild
   3 = moderate
   4 = severe

10. **Patient's awareness of abnormal movements.**
    0 = no awareness
    1 = aware, no distress
    2 = aware, milddistress
    3 = aware, moderate distress
    4 = aware, severe distress

Dental Status

11. **Current problems with teeth and/or dentures.**
    0 =no, 1 = yes
    Does patient usually wear dentures? 0 =no, 1 = yes

Reference:

Lane RD, Glazer WM, Hansen TE, Berman WH, Kramer SI. Assessment of tardive dyskinesia using the Abnormal Involuntary Movement Scale. J Nerv Ment Dis 1985; 173(6):353–7.

Munetz MR, Benjamin S. How to examine patients using the Abnormal Involuntary Movement Scale. Hosp Community Psychiatry 1988;39(11):1172–7.

Guy W.ECDEU Assessment Manual for Psychopharmacology: Revised (DHEW publication number ADM 76-338). Rockville, MD, US Department of Health, Education and Welfare, Public Health Service, Alcohol, Drug Abuse and Mental Health Administration, NIMH Psychopharmacology Research Branch, Division of Extramural Research Programs, 1976: 534–7

Unified Dyskinesia Rating Scale (UDysRS)

Overview: The Unified Dyskinesia Rating Scale (UDysRS) is developed to evaluate involuntary movements often associated with treated Parkinson's disease. There are two primary sections:

Historical [Part 1 (On-Dyskinesia) and Part 2 (Off-Dystonia)]

Objective [Part 3 (Impairment) and Part 4 (Disability)]

On-Dyskinesia refers to the **choreic and dystonic movements** described to the patient as "jerking or twisting movements that occur when your medicine is working."

Off-Dystonia should be described to the patient as "**spasms or cramps that can be painful and occur when your Parkinson's disease medications are not taken or are not working**.

Throughout the assessment, the focus is on these two forms of movements and a continual emphasis must be placed on excluding from the evaluation the impact of parkinsonism itself and tremor from the ratings.

Part I – On-Dyskinesia Ratings – Instructions for the rater

This portion of the scale assesses the presence and impact of on-dyskinesia on patients' experiences of daily living. There are 11 questions. Part 1A is administered by the rater and is one question that focuses on time spent with on- dyskinesia. Off-dystonia is NOT considered. Part 1B is a component of the Patient Questionnaire that covers ten questions on the impact of on-dyskinesia on experiences of daily living. Part 2 will focus on off-dystonia and will have a similar structure: 2A section for the rater and three questions (2B) formatted as a questionnaire for the patient/caregiver

Part 1A – Instructions for the Rater

In administering Part IA, the examiner should comply with the following guidelines:

1. Mark on the form the primary data source as patient, caregiver, or patient and caregiver in equal proportion.
2. The response to each item should refer to a period encompassing the prior week including the day on which the information is collected.
3. All items must have an integer rating (no half points, no missing scores). In the event that an item does not apply or cannot be rated (e.g., amputees), the item is marked **UR** for Unable to Rate.

4. The answers should reflect the usual level of dyskinesia and words such as "usually", "generally", "most of the time" can be used with patients.
5. For the question that you will administer, there is a text for you to read (Instructions to patients/caregiver). After that statement, you can elaborate and probe based on the target symptoms outlined in the Instructions to rater. You should not READ the RATING OPTIONS to the patient/caregiver, because these are written in medical terminology. From the interview and probing, you will use your medical judgment to arrive at the best response.
6. The first section focuses on the choreic and dystonic forms of on-dyskinesia and does not assess OFF-DYSTONIA (see later). Additionally, the patient must be reminded throughout the assessment that the focus is NOT on parkinsonism itself nor on tremor.
7. If questions 2–11 (Part 1B) have any answers greater than zero, make sure that the item "TIME SPENT WITH ON DYSKINESIA" (Question 1) reflects that dyskinesia occurred over the past week. If questions 13–15 (Part 2B) have any answers greater than zero, make sure that the item "TIME SPENT WITH OFF DYSTONIA" (Question 12) reflects that dystonia occurred over the past week.

Part 1A On-Dyskinesia

Read this statement to the patient:

I am going to ask you questions about on-dyskinesia, which is a medical term to describe **jerking or twisting movements that occur when your medicine is working to control your Parkinsonism**. My questions and the questionnaire that you will answer over the next several minutes do not concern tremor, which is a regular back and forth shaking or any part of the slowness or stiffness of Parkinson's disease itself. The topic is the jerking or twisting movements called on-dyskinesia that can be associated with medication treatment of Parkinson's disease. Do not consider spasms occur when your medications are **not** working or when you do not take your medication for Parkinson's disease. I will ask about those later.

Concentrate only on jerking or twisting movements that occur when your medicine is working to control your Parkinson's disease.

Primary source of information:

☐ Patient ☐ **Caregiver** ☐ **Patient and Caregiver in Equal Proportion**

Part 1.A . ON-DYSKINESIA [exclusive of OFF-state dystonia]—rater to complete

TIME SPENT WITH ON-DYSKINESIA

Instructions to examiner: Determine the hours in the usual waking day when the patient is ON, and then the hours of dyskinesia. Calculate the percentage. If the patient has dyskinesia in the office, you can point them out as a reference to ensure that patients and caregivers understand what they are rating. You may also use your own acting skills to enact the dyskinetic movements you have seen in the patient before or show them dyskinetic movements typical of other patients. Exclude from this question early morning and nighttime painful dystonia.

Instructions to patient [and caregiver]: Over the past week, how many hours do you usually sleep on a daily basis, including nighttime sleep and daytime napping? Alright, if you sleep _____ hrs, you are awake _____ hrs. Out of those awake hours, how many hours in total are your medications working to control your Parkinson's disease (hours on _____)? During the hours that your medications are working, do you have jerking or twisting movements? **Do not count the times when you have tremor, which is a regular back and forth shaking or times when you have painful cramps or spasms when you have not taken medication or when the medications for Parkinson's disease are not working. I will ask about those later. Concentrate only on these types of jerking or twisting movements that occur when your Parkinson's medicine is working.**. Add up all the time during the waking day when your medications are working and you have these jerking or twisting movements. How many hours _____ (use this number for your calculation).

0: Normal: No dyskinesia
1: Slight: ≤ 25% of on-time
2: Mild: 26–50% of on-time
3: Moderate: 51–75% of on-time
4: Severe: > 75% of on-time

1: Total Hours On: _____
2. Total Hours of on-Dyskinesia: _____
% On-Dyskinesia = ((2/1)*100) _____

SCORE	

Part 1 B: Patient Dyskinesia Questionnaire:

This questionnaire will ask you about the effect of movements called "on-dyskinesias" on your usual activities. **On-dyskinesias are jerking or twisting movements that occur in patients with Parkinson's disease when their medicines are working.**

Please answer question about how dyskinesia affect your activities.

- **Do not** answer these questions based on how other problem affect your activities.
- **Do not** base your answers on tremor, which is a regular back and forth shaking and part of the Parkinson's disease itself.
- **Do not** base your answers on slowness or stiffness that is part of Parkinson's disease itself
- **Do not** base your answers on spasms or cramps that can be painful and occur when your medicines are not working. You will answer questions about this problem later.

Concentrate only on jerking or twisting movements when your Parkinson's medicine is working.

There are 10 questions. We are trying to be thorough, and some of these questions may therefore not apply to you now or ever. If you do not have the problem, simply mark 0 for NO.

Please read each one carefully and read all answers before selecting the one that best applies to you.

We are interested in the average or usual impact of on-dyskinesia over the past week including today. Only one answer is allowed for each question, so please mark the answer that best describes how on-dyskinesia, if present, affects these activities **most of the time**.

Use only 0, 1, 2, 3, 4 for answers, nothing else. Do not leave any blanks.

Your doctor or nurse can review the questions with you, but this questionnaire is for patients to complete, either alone or with their caregivers.

Who is filling out this questionnaire (check the best answer)

☐ Patient ☐ Caregiver ☐ Patient and Caregiver in Equal Proportion

2. SPEECH: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on-dyskinesias usually cause problems with your speech? Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problems.

1: Slight: Dyskinesias were present, but they did not interfere with my speech.

2: Mild: Dyskinesias caused a few problems with my speech and people asked me to repeat myself occasionally.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid talking when I had on-dyskinesias.

4: Severe: When I had dyskinesias, most or all of my speech could not be understood.

SCORE	

3. CHEWING AND SWALLOWING: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on-dyskinesias usually cause problems swallowing pills or eating meals? Did you need your pills cut or crushed or your meals to be made soft, chopped or blended to avoid choking? Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problems.

1: Slight: Dyskinesias were present, but they did not interfere with my chewing or swallowing.

2: Mild: Dyskinesias caused a few problems with chewing and swallowing and it took me longer to chew or swallow because of on-dyskinesias.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid chewing and swallowing when I had on-dyskinesias.

4: Severe: When I had dyskinesias, I was unable to chew or swallow at all.

SCORE	

4. EATING TASKS: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on-dyskinesias usually cause troubles handling your food and using eating utensils? For example, did you have trouble handling finger foods or using forks, knifes, spoons, chopsticks? Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problems.

1: Slight: Dyskinesias were present, but they did not interfere with my eating.

2: Mild: Dyskinesias caused a few problems with eating and it took me longer to eat because of on-dyskinesias.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid eating when I had on- dyskinesias.

4: Severe: When I had dyskinesias, I needed help for most or all eating tasks.

SCORE	

5. DRESSING: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on-dyskinesias usually cause problems with your dressing? For example, did you need help with buttoning, using zippers, putting on or taking off your clothes or jewelry? Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problems.

1: Slight: Dyskinesias were present but they did not interfere with dressing tasks.

2: Mild: Dyskinesias caused a few problems with dressing and it took me longer to get dressed because of on-dyskinesias.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid getting dressed when I had on-dyskinesias.

4: Severe: When I had dyskinesias, I needed help for most or all dressing tasks.

SCORE	

6. HYGIENE: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on-dyskinesias usually cause problems with your personal hygiene? For example, did you need help with washing, bathing, shaving, brushing teeth, or combing your hair? Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problems.

1: Slight: Dyskinesias were present but they did not interfere with hygiene tasks.

2: Mild: Dyskinesias caused a few problems with hygiene tasks and it took me longer to do these activities because of on-dyskinesias.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid doing hygiene tasks when I had on-dyskinesias.

4: Severe: When I had dyskinesias, I needed help for most or all of my hygiene tasks.

SCORE	

7. HANDWRITING: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on-dyskinesias usually cause trouble with your handwriting. Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problems.

1: Slight: Dyskinesias were present, but they did not interfere with my handwriting.

2: Mild: Dyskinesias caused a few problems with writing and it took me longer to write because of on-dyskinesias.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid writing when I had on- dyskinesias.

4: Severe: When I had dyskinesias, most or all words could not be read.

SCORE	

8. DOING HOBBIES AND OTHER ACTIVITIES: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on- dyskinesias usually cause trouble doing your hobbies or other things that you like to do? Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problems.

1: Slight: Dyskinesias were present but they did not interfere with these activities.

2: Mild: Dyskinesias caused a few problems with these activities and it took me longer to do them because of on-dyskinesias.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid doing hobbies or other activities when I had on-dyskinesias.

4: Severe: When I had dyskinesias, I was unable to do most or all of these activities.

SCORE	

9. WALKING AND BALANCE: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on-dyskinesias usually cause problems with balance and walking. Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problems.

1: Slight: Dyskinesias were present but they did not interfere with walking or balance.

2: Mild: Dyskinesias caused a few problems with walking. It took me longer to walk because of on-dyskinesias and I occasionally bumped into things.

3: Moderate: Dyskinesias caused enough problems that I usually used a walking aid (cane, walker) to walk safely without falling. However, I did not usually need the support of another person. I tried to avoid walking when I had on-dyskinesias.

4: Severe: When I had dyskinesias, I could not walk safely without falling.

SCORE	

10. PUBLIC AND SOCIAL SETTINGS: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on-dyskinesias usually cause problems when you were dealing with other people or in public? Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problem.

1: Slight: Dyskinesias were present but they did not interfere with these activities.

2: Mild: Dyskinesias caused a few problems and I was self-conscious in public but I did not avoid social situations.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid some social situations when I had on-dyskinesias.

4: Severe: When I had dyskinesias, I could not be with people, even friends or family.

SCORE	

11. EXCITING OR EMOTIONAL SETTINGS: Over the past week, when your Parkinson's disease medications were working, did jerking or twisting movements called on- dyskinesias usually cause problems during emotional conversations, exciting movies, or other highly stimulating situations. Consider only effects of dyskinesias, not problems caused by Parkinson's disease.

0: Normal: Not at all, no problem.

1: Slight: Dyskinesias were present, but they did not interfere with these activities.

2: Mild: Dyskinesias caused few problems.

3: Moderate: Dyskinesias caused enough problems that I tried to avoid some exciting situations when I had on-dyskinesias.

4: Severe: When I had dyskinesias, I could not stay in exciting situations.

SCORE	

If questions 2–11 (Part 1B) have any answers greater than zero, make sure that the item "TIME SPENT WITH ON DYSKINESIA" (Question 1) reflects that dyskinesia occurred over the past week.

Part 2: Off-Dystonia Ratings:

Overview: This portion of the scale assesses the presence and impact of off-dystonia on patients' experiences of daily living. There are four questions. Part 2A is administered by the rater (one question) and focuses on time spent with off- dystonia. Part 2B is a component of the Patient Questionnaire that covers three questions on the impact of painful off- dystonia on experiences of daily living.

In administering Part 2A, the examiner should comply with the following guidelines:

8. The responses should refer to a period encompassing the prior week including the day on which the information is collected.
9. The response must be an integer rating (no half points, no missing scores). In the event that the question does not apply or cannot be rated (e.g., amputees), the item is marked **UR** for Unable to Rate.
10. The answers should reflect the usual level of off-dystonia when present and words such as "usually", "generally", "most of the time" can be used with patients.
11. For the single question that you will administer, there is a text for you to read (Instructions to patients/caregiver). After that statement, you can elaborate and probe based on the target symptoms outlined in the Instructions to rater. You should not READ the RATING OPTIONS to the patient/caregiver, because these are written in medical terminology. From the interview and probing, you will use your medical judgment to arrive at the best response.
12. This section focuses on dystonia during the off-period and this covers dystonia in the early morning or nighttime when patients often have not taken medication or during the day at the end of a dose cycle when they are parkinsonian. The patient must be reminded throughout the assessment that the focus is on off-dystonia and not on parkinsonism itself, tremor, or the on-dyskinesia already covered.

Part 2 A: OFF-Dystonia completed by rater.

Read this statement to the patient:

I am going to ask you questions about another type of movement, called **off-dystonia**. I am interested in spasms or cramps that occur when the Parkinson's disease medications are not taken or are not working well. We call that time period OFF. Off-dystonia is sometimes painful and often occurs in the early morning or nighttime, but occasionally at other times as well when your Parkinson's disease medications are not working. The feet and toes can be affected or other body areas. **My question and the questionnaire that you will answer over the next few minutes do not concern tremor, which is a regular back and forth shaking. Also, the questions are not about the slowness or stiffness of Parkinson's disease itself. Finally, they also do not concern the jerking or twisting movements called dyskinesia already covered. For these questions, please concentrate only on the spasms or cramps that we call OFF-Dystonia**

(completed by rater)

12. TIME SPENT WITH OFF-DYSTONIA

Over the past week, on a typical day, think about the number of hours of the day when you are stiff and slow, whether this is before you take morning medications, perhaps late in the evening, or during the day when the good effects of medication have worn out. Within these "OFF" times, how many hours or minutes do you have spasms or cramps that we call OFF-dystonia?

0 = Never

1 = Less than 30 minutes a day

2 = Less than 60 minutes a day.

3 = Less than 2 hours a day.

4 = Greater than 2 hours a day.___

SCORE	

Questionnaire for Patient

Part 2 B : Patient Questionnaire:

Instructions: This questionnaire asks you questions about spasms or cramps that occur when Parkinson's disease medications are not taken or when they are not working well. We call that time OFF. Off-dystonia movements are sometimes painful and often occur in the early morning or nighttime, but occasionally at other times when your Parkinson's disease medications are not working.

- **Do not** answer these questions based on how other problem affect your activities.
- **Do not** base your answers on tremor, which is a regular back and forth shaking and part of the Parkinson's disease itself.
- **Do not** base your answers on slowness or stiffness that is part of Parkinson's disease itself.
- **Do not** base your answers on jerking, twisting movements that you have already rated.
- **Concentrate only on spasms or cramps, called off-dystonia. In general, these movements develop in the early morning, nighttime or when the good effects of medicines have worn off. Sometimes, there is pain along with the spasms.**

There are 3 questions. We are trying to be thorough, and some of these questions may therefore not apply to you now or ever. If you do not have the problem, simply mark 0 for NO.

Please read each one carefully and read all answers before selecting the one that best applies to you.

We are interested in the average or usual impact of off-dystonia over the past week including today. Only one answer is allowed for each question, so please mark the answer that best describes what you can do **most of the time**.

Use only 0, 1, 2, 3, 4 for answers, nothing else. Do not leave any blanks.

Your doctor or nurse can review the questions with you, but this questionnaire is for patients to complete, either alone or with their caregivers.

Who is filling out this questionnaire (check the best answer)

☐ Patient ☐ Caregiver ☐ Patient and Caregiver in Equal Proportion

13. EFFECTS OF SPASMS OR CRAMPS CALLED OFF-DYSTONIA SEPARATE FROM PAIN ON ACTIVITIES. During the past week, separate from pain, have spasms or cramps called off-dystonia occurred?

0: Normal: Not at all.

1: Slight: Off-dystonia occurred but it did not interfere with my daily activities.

2: Mild: Off-dystonia caused a few problems and it took me longer to do activities because of off-dystonia.

3: Moderate: Off-dystonia caused enough problems that I avoided doing these activities when I had off-dystonia.

4: Severe: When off-dystonia occurred, I could not do many activities.

SCORE	

14. EFFECTS OF PAIN FROM OFF-DYSTONIA ON DAILY ACTIVITIES: On average during this past week, if spasms or cramps called off-dystonia occurred, did pain limit your activities?

0: Normal: Not at all, no pain from off-dystonia.

1: Slight: I had pain from off-dystonia, but it did not limit my activities

2: Mild: Pain from off-dystonia caused a few problems and it took me longer to do activities because of pain from off-dystonia.

3: Moderate: Pain from off-dystonia caused enough problems that I avoided doing these activities when I had pain from off-dystonia.

4: Severe: Because of pain from dystonia, I could not do many activities.

SCORE	

15. DYSTONIA PAIN: On average during the past week, how severe was the pain from the spasms or cramps of off-dystonia?

0: Normal: Not painful

1: Slight: Mild ache or discomfort.

2: Mild: Moderate ache and discomfort. 3: Moderate: Severe discomfort.

4: Severe: Excruciating pain.

SCORE	

If questions 13–15 (Part 2B) have any answers greater than zero, make sure that the Item "TIME SPENT WITH OFF DYSTONIA" (Question 12) reflects that dystonia occurred over the past week.

Part 3. OBJECTIVE EVALUATION OF DYSKINESIA DISABILITY

Instructions for the rater: In this section, you will observe the patient or observe a videotape of the patient during four activities of daily living.

- You will rate IMPAIRMENT by scoring the global intensity of the dyskinesia (giving an overall rating by body part that includes both choreic dyskinesia and dystonia) during each task.

- You will rate DISABILITY by scoring the functional impact of dyskinesia on each of the tasks.
- You will then account for the different types of dyskinesia you observed and judge the most prominent form of dyskinesia.
- The final IMPAIRMENT score for each body part will be HIGHEST score seen in that body part during the four tasks. Use the data sheet to enter the highest score.
- The DISABILITY score is entered for each of the four tasks.
- During the evaluations, ignore deficits caused by parkinsonism.

Instructions on conducting the examination or videotape.

Communication: Instruct subject to look at evaluator (or camera) and describe a picture (recommended Cookie Thief Drawing, but others can be used). Evaluate interference with communication as judged by ability to maintain eye contact, cadence and pronunciation of words and distraction of subject and listener caused by movements. Ignore dysarthria caused by parkinsonism.

Drinking from a cup: Instruct the subject to pick up a 4 oz cup filled to within 1 cm of brim with water with the dominant hand and bringing it to lips, drink contents and replace cup on table. Ignore bradykinesia or tremor from parkinsonism.

Dressing: Instruct the subject to put on a lab coat and do up three buttons, undo the buttons and take the coat off. [Allow up to 60 seconds]. Ignore bradykinesia or tremor from parkinsonism.

Ambulation: Instruct the patient to rise from a chair, walk 15 feet, return and sit back down in the chair. Ignore tremor or bradykinesia from parkinsonism.

Rush filming protocol

INTENSITY SCALE: IMPAIRMENT (PART 3)

0 = No dyskinesia

1 = Questionable or mild dyskinesia

2 = Moderate dyskinesia with movements which are not intrusive nor distort voluntary movements

3 = Severe dyskinesia which disturbs but does not prohibit posture or voluntary movements

4 = Incapacitating dyskinesia which prohibits some postures and voluntary movements

IMPAIRMENT SCORE	Communication	Drinking	Dressing	Ambulation	Highest score
FACE					(16)

NECK					(17)
R ARM/ SHOULDER					(18)
L ARM/ SHOULDER					(19)
TRUNK					(20)
R LEG/HIP					(21)
L LEG/HIP					(22)

DISABILITY SCALE (PART 4)

Communication

0= No dyskinesia

1 = Dyskinesia present but does not impair communication

2 = Dyskinesia impairs communication but patient is fully understandable

3 = Dyskinesia interferes with communication such that parts of communication cannot be understood but overall content is understandable

4 = Dyskinesia interferes with comprehension of overall communication

Drinking from a cup

0 = No dyskinesia observed

1 = Dyskinesia present but it does not affect performance of the task

2 = Dyskinesia affect the smooth performance but causes no splashing or spilling

3 = Dyskinesia affects performance such that patient spills a few drops of water (23)

4 = Dyskinesia affects performance such that patient spills more than a few drops or dyskinesia causes coughing or choking. (24)

Dressing

0 = No dyskinesia observed

1 = Dyskinesia present but does not interfere with or slow dressing

2 = Dyskinesia affects smooth performance of task but the performance is at most minimally slowed

3 = Dyskinesia interferes and slows performance but it is completed within 60 seconds

4 = Dyskinesia precludes completing the task within 60 seconds (25)

Ambulation

0 = No dyskinesia observed

1 = Mild dyskinesia present but does not alter normal synchrony or cadence

2 = Dyskinesia is present which alters the normal cadence of rising, sitting or walking but does not slow overall performance.

3 = Dyskinesia is present which disrupts or distorts arising, sitting or walking. Performance is slowed. Patient is able to rise and walk without imminent danger of falling.

4 = Dyskinesia prohibits walking safely without assistance (26)

Considering all of the activities above:

Patient exhibits: (check all applicable answers)

_____ **On dyskinesia**

_____ **Off dystonia**

_____ **Transition state (neither clearly On or Off)**

_____ **No dyskinesia or dystonia**

What movements were seen? (check all types)

_____ **chorea**

_____ **dystonia**

_____ **Other**

The predominant dyskinesia was (check one)

_____ **chorea**

_____ **dystonia**

_____ **Other**

Score summary

Historical		Score	Objective		Score
1	Time dyskinesia		16	Face	
2	Speech		17	Neck	
3	Chewing/Swallowing		18	Right Hand/arm/shoulder	
4	Eating tasks		19	Left Hand/arm/shoulder	
5	Dressing		20	Trunk	
6	Hygiene		21	Right foot/leg/hip	
7	Handwriting		22	Left foot/leg/hip	
8	Doing hobbies/activities		23	Communication	
9	Walking/balance		24	Drinking	
10	Public/social		25	Dressing	
11	Exciting situations		26	Ambulation	
12	Time Off dystonia				
13	Dystonia effects on activities (not pain)				
14	Effect of Pain from dystonia				
15	Dystonia pain severity				
Historical sub-score (sum)			Objective sub-score (sum)		
Total UDysRS score (Historical + Objective):					

References

Goetz, C. G., Nutt, J. G. and Stebbins, G. T. (2008), The Unified Dyskinesia Rating Scale: Presentation and clinimetric profile. Mov. Disord., 23: 2398-2403

Munich Dysphagia Test (MDT-PD)

This screening questionnaire has been designed for patients with Parkinson's disease in order to diagnose dysphagia at an early stage.

The sooner dysphagia is being detected and targeted therapeutic measures put in place, the more effectively serious dangers to health can be reduced. In addition, the functionality of the structures participating in the swallowing process, as well as the dysphagia-related quality of life of the affected patients can be maintained at high levels with an early treatment.

Please take the time to carefully read the questions and check the answers that best describe your situation.

Since only fully completed questionnaires can be evaluated, it is very important that you answer all questions.

You are allowed to consult others in order to read and check the answers of the questionnaire. However, please answer the questions on your own.

I	**DIFFICULTY SWALLOWING** food and liquids	(almost) never	occasional/ monthly (once/ multiple)	frequently/ weekly (once/ multiple)	very often/ daily (once/ multiple)
1	I have difficulties with the chewing and swallowing of solid/ fibrous/ crumbly food. (e.g. apples, meat, cracker/ chips)	0	1	2	3
2	During meals, food/ liquid escapes from the mouth (or the nose).	0	1	2	3
3	I find it difficult to directly/ quickly start the swallowing process when taking in liquids or food.	0	1	2	3
4	For the complete swallowing of food/ liquids I need to swallow multiple times in a row.	0	1	2	3
5	Food residues remain in my mouth after swallowing.	0	1	2	3

6	During the swallowing process, food gets stuck in my throat/ esophagus. (maybe I even have to choke)	0	1	2	3
7	During (or after) eating food I have to hawk/ cough.	0	1	2	3
8	During (or after) drinking liquids (or eating soup) I have to hawk/ cough.	0	1	2	3
9	It happens that I have difficulties breathing/ a sense of suffocation when swallowing food or liquids.	0	1	2	3
10	Right after eating food/ drinking liquids my voice has changed. (e.g. coated/ weakened/ "wet"/ "gargling")	0	1	2	3

II	**DIFFICULTY SWALLOWING** independent from food intake	I disagree	I somewhat agree	I mostly agree	I strongly agree
11	I have increased amount of saliva in my mouth/ I swallow my saliva too rarely or I have general problems swallowing my saliva/ drooling.	0	1	2	3
12	I have a very dry mouth/ not enough saliva.	0	1	2	3
13	It happens that I cough or have trouble breathing because I have choked on my saliva/ saliva went into my trachea.	0	1	2	3
14	I have problems swallowing pills.	0	1	2	3

III	**Further swallowing-specific and accompanying BURDEN**	I disagree	I somewhat agree	I mostly agree	I strongly agree
15	During the off-phases (Off-drug-state/ declining levodopa- levels) I have more difficulties to swallow.	0	1	2	3
16	I avoid specific foods or textures that often make me choke. (e.g. nuts, crumb cake, liquid-filled pralines, raw vegetable salads)	0	1	2	3
17	It is difficult for me to hawk/ cough after I choke in order to clear my throat.	0	1	2	3
18	Nowadays, it takes me more time to eat than it used to. (e.g. because I have to chew longer/ foods are longer in my mouth due to longer preparation time or more careful swallowing)	0	1	2	3
19	It happens that I get tired during meals (or even fall asleep) and don't finish chewing and swallowing my food.	0	1	2	3
20	During meals I have to have liquids to "flush down" the food in order to be able to better swallow.	0	1	2	3
21	I can only swallow liquids in small sips.	0	1	2	3
22	I have a reduced appetite or pleasure to eat than before. (sense of taste and smell are potentially affected)	0	1	2	3
23	I have problems, such as heartburn/ frequent burping, sense of lump in the throat/ esophagus, sense of pressure behind the breastbone.	0	1	2	3
23	I have problems, such as heartburn/ frequent burping, sense of lump in the throat/ esophagus, sense of pressure behind the breastbone.	0	1	2	3

IV	Swallowing-specific HEALTH QUESTIONS	no,I don't agree	yes,I agree
24	Within the last year I had a lung infection or unclear fever-infections.	0	3
25	I involuntarily loose body weight.	0	3
26	I drink less than 50 oz. of liquid during a given day. (equal to suggested minimum of 7–8 glasses/ cups water, juice, tea, coffee, soup)	0	3

To be filled in by doctor/ therapist	
For calculation and weighting please see questionnaire instructions/ web-application	
MDT-PD sum score: (26 Items)	
Diagnosis:	

References

A. Janine Simons (2012); www-mdt-parkinson.de

3 step falls predition model (...)

Predicting falls in people with parkinson's disease using three simple clinical tests

The 3-step falls prediction model includes history of falls, history of freezing of gait and comfortable gait speed <1.1 m/s.

The prediction model is suitable for patients aged above 40 years that are able to walk independently with or without aid.

This model shouldn't be used in patients with cognitive impairement (reflected by Mini-mental state examination score < 24) or suffered from any unstable cardio-vascular, orthopedic, or neurologic conditions that would intefere with the saftey of the assessment and/or interpretation of results.

Assessing the probability of falling in people with Parkinson's disease	**SCORE**	
Step 1 Ask your patient: Have you rallen in the past 12 months?	YES 6	NO **0**
Step 2 Ask your patient: Have you experienced freezing of gait in the past month?	YES **3**	NO **0**
Step 3 Time your patient walking over the middle 4 m of a 6 m walkway at a comfortable pace: >3.6 s to walk 4 m = 'yes'	YES **2**	NO **0**
Total score		

Probability of falling in next 6 months	**0**	**Low (17%)**
	2-6	**Moderate (51%)**
	8-11	**High (85%)**

Three-step clinicall prediction tool for assessing the probability of falling in the next 6 months in people with Parkinson's disease. The timed walking test is perfonned 'on' medication. The model was shown to accurately discriminate between high and low risk patients on external validation.

The 3-step model helps clinicians to identify patients with parkinsons disease who are at high risk of falling and anables the timely delivery of preventive and minimization strategies.

Bear in mind that multiple other risk factors influence the risk of falling other than the three parameters in the current model.

References

Research authors: Serene S. Paul, Colleen G. Canning, Catherine Sherrington, Stephen R. Lord, Jacqueline C. T. Close, Victor S.C. Fung

Unified Parkinsons Disease Rating Scale – Part III (MDS-UPDRS)

Motor Examination

Overview: This portion of the scale assesses the motor signs of PD. In administering Part III of the MDS-UPDRS the examiner should comply with the following guidelines:

At the top of the form, mark whether the patient is on medication for treating the symptoms of Parkinson's disease and, if on levodopa, the time since the last dose.

Also, if the patient is receiving medication for treating the symptoms of Parkinson's Disease, mark the patient's clinical state using the following definitions:

ON is the typical functional state when patients are receiving medication and have a good response.

OFF is the typical functional state when patients have a poor response in spite of taking medications.

The investigator should "rate what you see". Admittedly, concurrent medical problems such as stroke, paralysis, arthritis, contracture, and orthopedic problems such as hip or knee replacement and scoliosis may interfere with individual items in the motor examination. In situations where it is absolutely impossible to test (e.g., amputations, plegia, limb in a cast), use the notation "UR" for Unable to Rate. Otherwise, rate the performance of each task as the patient performs in the context of co-morbidities.

All items must have an integer rating (no half points, no missing ratings).

Specific instructions are provided for the testing of each item. These should be followed in all instances. The investigator demonstrates while describing tasks the patient is to perform and rates function immediately thereafter. For Global Spontaneous Movement and Rest Tremor items (3.14 and 3.17), these items have been placed purposefully at the end of the scale because clinical information pertinent to the score will be obtained throughout the entire examination.

At the end of the rating, indicate if dyskinesia (chorea or dystonia) was present at the time of the examination, and if so, whether these movements interfered with the motor examination.

3a Is the patient on medication for treating the symptoms of Parkinson's Disease? ☐ No ☐ Yes

3b If the patient is receiving medication for treating the symptoms of Parkinson's Disease, mark the patient's clinical state using the following definitions:

☐ ON: On is the typical functional state when patients are receiving medication and have a good response.

☐ OFF: Off is the typical functional state when patients have a poor response in spite of taking medications.

3c Is the patient on Levodopa ? ☐ No ☐ Yes

3.C1 If yes, minutes since last levodopa dose: _____

3.1 SPEECH

Instructions to examiner: Listen to the patient's free-flowing speech and engage in conversation if necessary. Suggested topics: ask about the patient's work, hobbies, exercise, or how he got to the doctor's office. Evaluate volume, modulation (prosody) and clarity, including slurring, palilalia (repetition of syllables) and tachyphemia (rapid speech, running syllables together).

0: Normal: No speech problems.

1: Slight: Loss of modulation, diction or volume, but still all words easy to understand.

2: Mild: Loss of modulation, diction, or volume, with a few words unclear, but the overall sentences easy to follow.

3: Moderate: Speech is difficult to understand to the point that some, but not most, sentences are poorly understood.

4: Severe: Most speech is difficult to understand or unintelligible.

SCORE	

3.2 FACIAL EXPRESSION

Instructions to examiner: Observe the patient sitting at rest for 10 seconds, without talking and also while talking. Observe eye-blink frequency, masked facies or loss of facial expression, spontaneous smiling and parting of lips.

0: Normal: Normal facial expression.

1: Slight: Minimal masked facies manifested only by decreased frequency of blinking.

2: Mild: In addition to decreased eye-blink frequency, Masked facies present in the lower face as well, namely fewer movements around the mouth, such as less spontaneous smiling, but lips not parted.

3: Moderate: Masked facies with lips parted some of the time when the mouth is at rest.

4: Severe: Masked facies with lips parted most of the time when the mouth is at rest.

SCORE	

3.3 RIGIDITY

Instructions to examiner: 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. First, test without an activation maneuver. Test and rate neck and each limb separately. For arms, test the wrist and elbow joints simultaneously. For legs, test the hip and knee joints simultaneously. If no rigidity is detected, use an activation maneuver such as tapping fingers, fist opening/closing, or heel tapping in a limb not being tested. Explain to the patient to go as limp as possible as you test for rigidity.

0: Normal: No rigidity.

1: Slight: Rigidity only detected with activation maneuver.

2: Mild: Rigidity detected without the activation maneuver, but full range of motion is easily achieved.

3: Moderate: Rigidity detected without the activation maneuver; full range of motion is achieved with effort.

4: Severe: Rigidity detected without the activation maneuver and full range of motion not achieved.

SCORE	neck	RUE	LUE	RLE	LLE

3.4 FINGER TAPPING

Instructions to examiner: Each hand is tested separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to tap the index finger on the thumb 10 times as quickly AND as big as possible. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problems.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the tapping movement; b) slight slowing; c) the amplitude decrements near the end of the 10 taps.

2: Mild: Any of the following: a) 3 to 5 interruptions during tapping; b) mild slowing; c) the amplitude decrements midway in the 10-tap sequence.

3: Moderate: Any of the following: a) more than 5 interruptions during tapping or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing; c) the amplitude decrements starting after the 1st tap.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

SCORE	R	L

3.5 HAND MOVEMENTS

Instructions to examiner: Test each hand separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to make a tight fist with the arm bent at the elbow so that the palm faces the examiner. Have the patient open the hand 10 times as fully AND as quickly as possible. If the patient fails to make a tight fist or to open the hand fully, remind him/her to do so. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problem.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the movement; b) slight slowing; c) the amplitude decrements near the end of the task.

2: Mild: Any of the following: a) 3 to 5 interruptions during the movements; b) mild slowing; c) the amplitude decrements midway in the task.

3: Moderate: Any of the following: a) more than 5 interruptions during the movement or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing; c) the amplitude decrements starting after the 1st open-and-close sequence.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

SCORE	R	L

3.6 PRONATION-SUPINATION MOVEMENTS OF HANDS

Instructions to examiner: Test each hand separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to extend the arm out in front of his/her body with the palms down; then

to turn the palm up and down alternately 10 times as fast and as fully as possible. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problems.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the movement; b) slight slowing; c) the amplitude decrements near the end of the sequence.

2: Mild: Any of the following: a) 3 to 5 interruptions during the movements; b) mild slowing; c) the amplitude decrements midway in the sequence.

3: Moderate: Any of the following: a) more than 5 interruptions during the movement or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing c) the amplitude decrements starting after the 1st supination-pronation sequence.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

3.7 TOE TAPPING

Instructions to examiner: Have the patient sit in a straight-backed chair with arms, both feet on the floor. Test each foot separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to place the heel on the ground in a comfortable position and then tap the toes 10 times as big and as fast as possible. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problem.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the tapping movement; b) slight slowing; c) amplitude decrements near the end of the ten taps.

2: Mild: Any of the following: a) 3 to 5 interruptions during the tapping movements; b) mild slowing; c) amplitude decrements midway in the task.

3: Moderate: Any of the following: a) more than 5 interruptions during the tapping movements or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing; c) amplitude decrements after the first tap.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

SCORE	R	L

3.8 LEG AGILITY

Instructions to examiner: Have the patient sit in a straight-backed chair with arms. The patient should have both feet comfortably on the floor. Test each leg separately. Demonstrate the task, but do not continue to perform the task while the patient is being tested. Instruct the patient to place the foot on the ground in a comfortable position and then raise and stomp the foot on the ground 10 times as high and as fast as possible. Rate each side separately, evaluating speed, amplitude, hesitations, halts and decrementing amplitude.

0: Normal: No problems.

1: Slight: Any of the following: a) the regular rhythm is broken with one or two interruptions or hesitations of the movement; b) slight slowing; c) amplitude decrements near the end of the task.

2: Mild: Any of the following: a) 3 to 5 interruptions during the movements; b) mild slowness; c) amplitude decrements midway in the task.

3: Moderate: Any of the following: a) more than 5 interruptions during the movement or at least one longer arrest (freeze) in ongoing movement; b) moderate slowing in speed; c) amplitude decrements after the first tap.

4: Severe: Cannot or can only barely perform the task because of slowing, interruptions or decrements.

SCORE	R	L

3.9 ARISING FROM CHAIR

Instructions to examiner: Have the patient sit in a straight-backed chair with arms, with both feet on the floor and sitting back in the chair (if the patient is not too short). Ask the patient to cross his/her arms across the chest and then to stand up. If the patient is not successful, repeat this attempt a maximum up to two more times. If still unsuccessful, allow the patient to move forward in the chair to arise with arms folded across the chest. Allow only one attempt in this situation. If unsuccessful, allow the patient to push off using his/her hands on the arms of the chair. Allow a maximum of three trials of pushing off. If still not successful, assist the patient to arise. After the patient stands up, observe the posture for item 3.13.

0: Normal: No problems. Able to arise quickly without hesitation.

1: Slight: Arising is slower than normal; or may need more than one attempt; or may need to move forward in the chair to arise. No need to use the arms of the chair.

2: Mild: Pushes self up from arms of chair without difficulty.

3: Moderate: Needs to push off, but tends to fall back; or may have to try more than one time using arms of chair, but can get up without help.

4: Severe: Unable to arise without help.

SCORE	

3.10 GAIT

Instructions to examiner: Testing gait is best performed by having the patient walking away from and towards the examiner so that both right and left sides of the body can be easily observed simultaneously. The patient should walk at least 10 meters (30 feet), then turn around and return to the examiner. This item measures multiple behaviors: stride amplitude, stride speed, height of foot lift, heel strike during walking, turning, and arm swing, but not freezing. Assess also for "freezing of gait" (next item 3.11) while patient is walking. Observe posture for item 3.13.

0: Normal: No problems.

1: Slight: Independent walking with minor gait impairment.

2: Mild: Independent walking but with substantial gait impairment.

3: Moderate: Requires an assistance device for safe walking (walking stick, walker) but not a person.

4: Severe: Cannot walk at all or only with another person's assistance.

SCORE	

3.11 FREEZING OF GAIT

Instructions to examiner: While assessing gait, also assess for the presence of any gait freezing episodes. Observe for start hesitation and stuttering movements especially when turning and reaching the end of the task. To the extent that safety permits, patients may NOT use sensory tricks during the assessment.

0: Normal: No freezing.

1: Slight: Freezes on starting, turning or walking through doorway with a single halt during any of these events, but then continues smoothly without freezing during straight walking.

2: Mild: Freezes on starting, turning or walking through doorway with more than one halt during any of these activities, but continues smoothly without freezing during straight walking.

3: Moderate: Freezes once during straight walking.

4: Severe: Freezes multiple times during straight walking.

SCORE	

3.12 POSTURAL STABILITY

Instructions to examiner: The test examines the response to sudden body displacement produced by a quick, forceful pull on the shoulders while the patient is standing erect with eyes open and feet comfortably apart and parallel to each other. Test retropulsion. Stand behind the patient and instruct the patient on what is about to happen. Explain that s/he is allowed to take a step backwards to avoid falling. There should be a solid wall behind the examiner, at least 1–2 meters away to allow for the observation of the number of retropulsive steps. The first pull is an instructional demonstration and is purposely milder and not rated. The second time the shoulders are pulled briskly and forcefully towards the examiner with enough force to displace the center of gravity so that patient MUST take a step backwards. The examiner needs to be ready to catch the patient, but must stand sufficiently back so as to allow enough room for the patient to take several steps to recover independently. Do not allow the patient to flex the body abnormally forward in anticipation of the pull. Observe for the number of steps backwards or falling. Up to and including two steps for recovery is considered normal, so abnormal ratings begin with three steps. If the patient fails to understand the test, the examiner can repeat the test so that the rating is based on an assessment that the examiner feels reflects the patient's limitations rather than misunderstanding or lack of preparedness. Observe standing posture for item 3.13

0: Normal: No problems: Recovers with one or two steps.

1: Slight: 3–5 steps, but subject recovers unaided.

2: Mild: More than 5 steps, but subject recovers unaided.

3: Moderate: Stands safely, but with absence of postural response; falls if not caught by examiner.

4: Severe: Very unstable, tends to lose balance spontaneously or with just a gentle pull on the shoulders.

SCORE	

3.13 POSTURE

Instructions to examiner: Posture is assessed with the patient standing erect after arising from a chair, during walking, and while being tested for postural reflexes. If

you notice poor posture, tell the patient to stand up straight and see if the posture improves (see option 2 below). Rate the worst posture seen in these three observation points. Observe for flexion and side-to-side leaning.

0: Normal: No problems.

1: Slight: Not quite erect, but posture could be normal for older person.

2: Mild: Definite flexion, scoliosis or leaning to one side, but patient can correct posture to normal posture when asked to do so.

3: Moderate: Stooped posture, scoliosis or leaning to one side that cannot be corrected volitionally to a normal posture by the patient.

4: Severe: Flexion, scoliosis or leaning with extreme abnormality of posture.

SCORE	

3.14 GLOBAL SPONTANEITY OF MOVEMENT (BODY BRADYKINESIA)

Instructions to examiner: This global rating combines all observations on slowness, hesitancy, and small amplitude and poverty of movement in general, including a reduction of gesturing and of crossing the legs. This assessment is based on the examiner's global impression after observing for spontaneous gestures while sitting, and the nature of arising and walking.

0: Normal: No problems.

1: Slight: Slight global slowness and poverty of spontaneous movements.

2: Mild: Mild global slowness and poverty of spontaneous movements.

3: Moderate: Moderate global slowness and poverty of spontaneous movements.

4: Severe: Severe global slowness and poverty of spontaneous movements.

SCORE	

3.15 POSTURAL TREMOR OF THE HANDS

Instructions to examiner: All tremor, including re-emergent rest tremor, that is present in this posture is to be included in this rating. Rate each hand separately. Rate the highest amplitude seen. Instruct the patient to stretch the arms out in front of the body with palms down. The wrist should be straight and the fingers comfortably separated so that they do not touch each other. Observe this posture for 10 seconds.

0: Normal: No tremor.

1: Slight: Tremor is present but less than 1 cm in amplitude.

2: Mild: Tremor is at least 1 but less than 3 cm in amplitude.

3: Moderate: Tremor is at least 3 but less than 10 cm in amplitude.

4: Severe: Tremor is at least 10 cm in amplitude.

SCORE	R	L

3.16 KINETIC TREMOR OF THE HANDS

Instructions to examiner: This is tested by the finger-to-nose maneuver. With the arm starting from the outstretched position, have the patient perform at least three finger-to-nose maneuvers with each hand reaching as far as possible to touch the examiner's finger. The finger-to-nose maneuver should be performed slowly enough not to hide any tremor that could occur with very fast arm movements. Repeat with the other hand, rating each hand separately. The tremor can be present throughout the movement or as the tremor reaches either target (nose or finger). Rate the highest amplitude seen.

0: Normal: No tremor.

1: Slight: Tremor is present but less than 1 cm in amplitude.

2: Mild: Tremor is at least 1 but less than 3 cm in amplitude.

3: Moderate: Tremor is at least 3 but less than 10 cm in amplitude.

4: Severe: Tremor is at least 10 cm in amplitude.

SCORE	R	L

3.17 REST TREMOR AMPLITUDE

Instructions to examiner: This and the next item have been placed purposefully at the end of the examination to allow the rater to gather observations on rest tremor that may appear at any time during the exam, including when quietly sitting, during walking and during activities when some body parts are moving but others are at rest. Score the maximum amplitude that is seen at any time as the final score. Rate only the amplitude and not the persistence or the intermittency of the tremor.

As part of this rating, the patient should sit quietly in a chair with the hands placed on the arms of the chair (not in the lap) and the feet comfortably supported on the floor for 10 seconds with no other directives. Rest tremor is assessed separately for all four limbs and also for the lip/jaw. Rate only the maximum amplitude that is seen at any time as the final rating.

Extremity ratings

0: Normal: No tremor.

1: Slight: ≤ 1 cm in maximal amplitude.

2: Mild: > 1 cm but < 3 cm in maximal amplitude. 3: Moderate: 3–10 cm in maximal amplitude.

4: Severe: > 10 cm in maximal amplitude.

Lip/Jaw ratings

0: Normal: No tremor.

1: Slight: ≤ 1 cm in maximal amplitude.

2: Mild: > 1 cm but ≤ 2 cm in maximal amplitude.

3: Moderate: > 2 cm but ≤ 3 cm in maximal amplitude.

4: Severe: > 3 cm in maximal amplitude.

SCORE	Lip/Jaw	RUE	LUE	RLE	LLE

3.18 CONSTANCY OF REST TREMOR

Instructions to examiner: This item receives one rating for all rest tremor and focuses on the constancy of rest tremor during the examination period when different body parts are variously at rest. It is rated purposefully at the end of the examination so that several minutes of information can be coalesced into the rating.

0: Normal: No tremor.

1: Slight: Tremor at rest is present ≤ 25% of the entire examination period.

2: Mild: Tremor at rest is present 26–50% of the entire examination period.

3: Moderate: Tremor at rest is present 51–75% of the entire examination period.

4: Severe: Tremor at rest is present > 75% of the entire examination period.

SCORE	

DYSKINESIA IMPACT ON PART III RATINGS

A. Were dyskinesias (chorea or dystonia) present during examination?
☐ NO ☐ YES

B. If yes, did these movements interfere with your ratings?
☐ NO ☐ YES

HOEHN AND YAHR STAGE

0: Asymptomatic.

1: Unilateral involvement only.

2: Bilateral involvement without impairment of balance.

3: Mild to moderate involvement; some postural instability but physically independent; needs assistance to recover from pull test.

4: Severe disability; still able to walk or stand unassisted. 5: Wheelchair bound or bedridden unless aided.

SCORE	

References

Goetz, C. G., Tilley, B. C., Shaftman, S. R., Stebbins, G. T., Fahn, S., Martinez-Martin, P., Poewe, W., Sampaio, C., Stern, M. B., Dodel, R., Dubois, B., Holloway, R., Jankovic, J., Kulisevsky, J., Lang, A. E., Lees, A., Leurgans, S., LeWitt, P. A., Nyenhuis, D., Olanow, C. W., Rascol, O., Schrag, A., Teresi, J. A., van Hilten, J. J. and LaPelle, N. (2008), Movement Disorder Society-sponsored revision of the Unified Parkinson's Disease Rating Scale (MDS-UPDRS): Scale presentation and clinimetric testing results. Mov. Disord., 23: 2129-2170.

The Activities-specific Balance Confidence Scale (ABC)

Instructions to Participants:

For each of the following activities, please indicate your level of confidence in doing the activity without losing your balance or becoming unsteady from choosing one of the percentage points on the scale from 0% to 100% If you do not currently do the activity in question, try and imagine how confident you would be if you had to do the activity. If you normally use a walking aid to do the activity or hold onto someone, rate your confidence as if you were using these supports.

0%	10	20	30	40	50	60	70	80	90	100%
No Confidence										Completely Confident

	How confident are you that you will not lose your balance or become unsteady when you ...	
1	... walk around the house?	%
2	... walk up or down stairs?	%
3	... bend over and pick up a slipper from the front of a closet floor?	%
4	... reach for a small can off a shelf at eye level?	%
5	... stand on your tip toes and reach for something above your head?	%
6	... stand on a chair and reach for something?	%
7	... sweep the floor?	%
8	... walk outside the house to a car parked in the driveway?	%
9	... get into or out of a car?	%
10	... walk across a parking lot to the mall?	%
11	... walk up or down a ramp?	%
12	... walk in a crowded mall where people rapidly walk past you?	%
13	... are bumped into by people as you walk through the mall?	%
14	... step onto or off of an escalator while you are holding onto a railing?	%

15	... step onto or off an escalator while holding onto parcels such that you cannot hold onto the railing?	%
16	... walk outside on icy sidewalks?	%
	Total ABC Score:	%

Scoring (Total ABC Score / 16) = self confidence:	%

References:

Schott, N. (2011). ABC-D. Activities-Specific Balance Confidence-Skala [Verfahrensdokumentation aus PSYNDEX Tests-Nr. 9006151 und Fragebogen]. In Leibniz-Zentrum für Psychologische Information und Dokumentation (ZPID) (Hrsg.), Elektronisches Testarchiv. Trier: ZPID. https://doi.org/10.23668/psycharchives.401

Falls Efficacy Scale International (FES-I)

The Falls Efficacy Scale International (FES-I) and the Short Falls Efficacy Scale International (Short FES-I) are measures of "fear of falling" or, more properly, "concerns about falling", which are suitable for use in research and clinical practice.

FES-I and Short FES-I have been translated from the original English into many other languages (see below). FES-I and Short FES-I are available free of charge for use by researchers and clinicians providing they are appropriately referenced.

Background

FES-I was developed as part of the Prevention of Falls Network Europe (ProFaNE) project from 2003 to 2006, following an intensive review of fear of falling, self-efficacy and balance confidence questionnaires.

Members of the ProFaNE team led by Chris Todd, Gertrudis Kempen and Lucy Yardley, developed the 16 item FES-I, which has proven to be a useful instrument for researchers and clinicians interested in fear of falling.

How to use it?

The FES-I and Short-FES-I translations available on this site are free to download and use. FES-I and Short FES-I can be administered as self-completion questionnaires or administered verbally as part of a research interview or clinical assessment. When completing the questionnaire, participants should follow the instructions at the top of the FES-I or Short FES-I document, ticking the relevant answer box for each question. It is important to stress that respondents should complete all items. We have created some notes for interviewers (and translators) as to what questions are intended to mean which should be read prior to use. Please let us know you are using FES-I or Short FES-I by emailing us at fes-i@manchester.ac.uk See section Notes for translators and interviewers.

Scoring

To calculate the FES-I or Short FES-I score when all items are completed, simply add the scores for each item together to give a total that ranges as follows:

FES-I: minimum 16 (no concern about falling) to maximum 64 (severe concern about falling)

Short FES-I: minimum 7 (no concern about falling) to maximum 28 (severe concern about falling)

Scoring with missing items

If responses are missing on more than four items on FES-I (i.e.≥5), or more than two items (i.e.≥3) for Short-FES-I then the questionnaire scores cannot be used. If responses are missing on four or less for FES-I, or 2 or less on Short FES-I then it is possible to calculate a FES-I/Short FES-I score. To do this first calculate the total score of the items which have been completed. Divide that score by the number of items completed and then multiply by 16 (FES-I) or 7 (Short FES-I). The new total score should be rounded up to the nearest whole number to give the score for an individual. For example, if scores on Short FES-I were: Item 1=2 Item 2=3 Item 3=missing Item 4=3 Item 5=2 Item 6=4 Item 7=missing Then 2+3+3+2+4=14/5 = 2.8×7= 19.6 which is rounded up to 20.

Delbaere and colleagues established cut-points for low, moderate and high concern about falling. We advise that you read the paper before using these cut points.

	Low concern	Moderate concern	High concern
FES-I	16–19	20–27	28–64
Short FES-I	7–8	9–13	14–28

Now we would like to ask some questions about how concerned you are about the possibility of falling. Please reply thinking about how you usually do the activity. If you currently don't do the activity (e.g. if someone does your shopping for you), please answer to show whether you think you would be concerned about falling IF you did the activity. For each of the following activities, please tick the box which is closest to your own opinion to show how concerned you are that you might fall if you did this activity.

		Not at all concerned 1	Somewhat concerned 2	Fairly concerned 3	Very concerned 4
1	Cleaning the house (e.g. sweep, vacuum or dust)	1	2	3	4
2	Getting dressed or undressed	1	2	3	4
3	Preparing simple meals	1	2	3	4
4	Taking a bath or shower	1	2	3	4
5	Going to the shop	1	2	3	4
6	Getting in or out of a chair	1	2	3	4
7	Going up or down stairs	1	2	3	4
8	Walking around in the neighbourhood	1	2	3	4
9	Reaching for something above your head or on the ground	1	2	3	4
10	Going to answer the telephone before it stops ringing	1	2	3	4
11	Walking on a slippery surface (e.g. wet or icy)	1	2	3	4
12	Visiting a friend or relative	1	2	3	4
13	Walking in a place with crowds	1	2	3	4
14	Walking on an uneven surface (e.g. rocky ground, poorly maintained pavement)	1	2	3	4
15	Walking up or down a slope	1	2	3	4
16	Going out to a socialevent (e.g. religious service,family gathering or clubmeeting)	1	2	3	4

References:

Prof Lucy Yardley and Prof Chris Todd

Frequency of falls (ER)

Please answer the questions below regarding the frequency with which you fell or tumbled in the last 3 months or last year.

		last 3 months	last 12 months
1	**How often do you fall or tumble?**		
a	daily	☐	☐
b	1–3 x/week	☐	☐
c	1–3 x/month	☐	☐
d	1–3 x/quarter	☐	☐
e	Not yet at all	☐	☐
2	**How often have you been injured?**		
a	daily	☐	☐
b	1–3 x/week	☐	☐
c	1–3 x/month	☐	☐
d	1–3 x/quarter	☐	☐
e	Not yet at all	☐	☐
3	**How often was medical treatment (outpatient/inpatient) necessary?**		
a	daily	☐	☐
b	1–3 x/week	☐	☐
c	1–3 x/month	☐	☐
d	1–3 x/quarter	☐	☐
e	Not yet at all	☐	☐
4	**Do you feel insecure in your balance whilewalking?**		
a	daily	☐	☐
b	1–3 x/week	☐	☐
c	1–3 x/month	☐	☐
d	1–3 x/quarter	☐	☐
e	Not yet at all	☐	☐

References:

Klucken J., Gaßner H.: The Erlanger Frequency of Falls Questionnaire. Molecular Neurology, University Hospital Erlangen, Friedrich-Alexander University Erlangen-Nürnberg (FAU), Erlangen, Germany; Gladow et al.: „Validation of the Erlanger Frequency of Falls Questionnaire for Parkinson's Disease." (in preparation).

notes

Other Scales

Unified MSA Rating Scale (UMSARS)

Part I: Historical Review

Rate the average functional situation for the past 2 weeks (unless specified) according to the patient and caregiver interview. Indicate the score that best fits with the patient status. Rate the function independently from the nature of the signs.

1. Speech	
Not affected.	0
Mildly affected. No difficulties being understood.	1
Moderately affected. Sometimes (less than half of the time) asked to repeat statements.	2
Severely affected. Frequently (more than half of the time) asked to repeat statements.	3
Unintelligible most of the time.	4

2. Swallowing	
Normal.	0
Mild impairment. Choking less than once a week.	1
Moderate impairment. Occasional food aspiration with choking more than once a week.	2
Marked impairment. Frequent food aspiration.	3
Nasogastric tube or gastrostomy feeding.	4

3. Handwriting	
Normal	0
Mildly impaired, all words are legible.	1
Moderately impaired, up to half of the words are not legible.	2
Markedly impaired, the majority of words are not legible.	3
Unable to write.	4

4. Cutting food and handling utensils	
Normal.	0

Somewhat slow and/or clumsy, but no help needed.	1
Can cut most foods, although clumsy and slow; some help needed.	2
Food must be cut by someone, but can still feed slowly.	3
Needs to be fed.	4

5. Dressing	
Normal.	0
Somewhat slow and/or clumsy, but no help needed.	1
Occasional assistance with buttoning, getting arms in sleeves.	2
Considerable help required, but can do some things alone.	3
Completely helpless.	4

6. Hygiene	
Normal.	0
Somewhat slow and/or clumsy, but no help needed.	1
Needs help to shower or bathe; or very slow in hygienic care.	2
Requires assistance for washing, brushing teeth, combing hair, using the toilet.	3
Completely helpless.	4

7. Walking	
Normal.	0
Mildly impaired. No assistance needed. No walking aid required (except for unrelated disorders).	1
Moderately impaired. Assistance and/or walking aid needed occasionally.	2
Severely impaired. Assistance and/or walking aid needed frequently.	3
Cannot walk at all even with assistance.	4

8. Falling (rate the past month)	
None.	0
Rare falling (less than once a month).	1
Occasional falling (less than once a week).	2
Falls more than once a week.	3
Falls at least once a day (if the patient cannot walk at all, rate 4).	4

9. Orthostatic symptoms	
No orthostatic symptoms.*	0
Orthostatic symptoms are infrequent and do not restrict activities of daily living.	1
Frequent orthostatic symptoms developing at least once a week. Some limitation in activities of daily living. Orthostatic symptoms develop on most occasions. Able to stand > 1 min on most occasions. Limitation in most of activities of daily living.	2
Symptoms consistently develop on orthostasis. Able to stand < 1 min on most occasions. Syncope/presyncope is common if patient attempts to stand.	3
*Syncope, dizziness, visual disturbances or neck pain, relieved on lying flat.	4

10. Urinary function*	
Normal.	0
Urgency and/or frequency, no drug treatment required.	1
Urgency and/or frequency, drug treatment required.	2
Urge incontinence and/or incomplete bladder emptying needing intermittent catheterization.	3
Incontinence needing indwelling catheter. *Urinary symptoms should not be due to other causes.	4

11. Sexual function	
No problems.	0
Minor impairment compared to healthy days.	1
Moderate impairment compared to healthy days.	2
Severe impairment compared to healthy days.	3
No sexual activity possible.	4

12. Bowel function	
No change in pattern of bowel function from previous pattern.	0
Occasional constipation but no medication needed.	1
Frequent constipation requiring use of laxatives.	2
Chronic constipation requiring use of laxatives and enemas.	3
Cannot have a spontaneous bowel movement.	4

Part II: Motor Examination Scale

Always rate the worst affected limb.

1. Facial expression	
Normal.	0
Minimal hypomimia, could be normal (“Poker face”).	1
Slight but definitely abnormal diminution of facial expression.	2
Moderate hypomimia; lips parted some of the time.	3
Masked or fixed facies with severe or complete loss of facial expression, lips parted 0.25 inch or more.	4

2. Speech The patient is asked to repeat several times a standard sentence.	
Normal.	0
Mildly slow, slurred, and/or dysphonic. No need to repeat statements.	1
Moderately slow, slurred, and/or dysphonic. Sometimes asked to repeat statements.	2
Severely slow, slurred, and/or dysphonic. Frequently asked to repeat statements.	3
Unintelligible.	4

3. Ocular motor dysfunction Eye movements are examined by asking the subject to follow slow horizontal finger movements of the examiner, to look laterally at the finger at different positions, and to perform saccades between two fingers, each held at an eccentric posit ion of approximately 30°. The examiner assesses the following abnormal signs: (1) broken-up smooth pursuit, (2) gaze-evoked nystagmus at an eye position of more than 45 degrees, (3) gaze-evoked nystagmus at an eye position of less than 45 degrees, (4) saccadic hypermetria. Sign 3 suggests that there are at least two abnormal ocular motor signs, because Sign 2 is also present.	
None.	0
One abnormal ocular motor sign.	1
Two abnormal ocular motor signs.	2
Three abnormal ocular motor signs.	3
Four abnormal ocular motor signs.	4

4. Tremor at rest (rate the most affected limb)	
Absent.	0
Slight and infrequently present.	1
Mild in amplitude and persistent. Or moderate in amplitude, but only intermittently present.	2
Moderate in amplitude and present most of the time,	3
Marked in amplitude and present most of the time,	4

5. Action tremor Assess postural tremor of outstretched arms (A) and action tremor on finger pointing (B). Rate maximal tremor severity in Task A and/or B (whichever is worse), and rate the most affected limb.	
Absent.	0
Slight tremor of small amplitude (A). No interference with finger pointing (B).	1
Moderate amplitude (A). Some interference with finger pointing (B).	2
Marked amplitude (A). Marked interference with finger pointing (B).	3
Severe amplitude (A). Finger pointing impossible (B).	4

6. Increased tone (rate the most affected limb) Judged on passive movement of major joints with patient relaxed in sitting position; ignore cogwheeling.	
Absent.	0
Slight or detectable only when activated by mirror or other movements.	1
Mild to moderate.	2
Marked, but full range of motion easily achieved.	3
Severe, range of motion achieved with difficulty.	4

7. Rapid alternating movements of hands Pro-supination movements of hands, vertically or horizontally, with as large an amplitude as possible, each hand separately, rate the worst affected limb. Note that impaired performance on this task can be caused by bradykinesia and/or cereb ellar incoordination. Rate functional performance regardless of underlying motor disorder.	
Normal.	0
Mildly impaired.	1
Moderately impaired.	2
Severely impaired.	3
Can barely perform the task.	4

8. Finger taps Patient taps thumb with index finger in rapid succession with widest amplitude possible, each hand at least 15 to 20 seconds. Rate the worst affected limb. Note that impaired performance on this task can be caused by bradykinesia and/or cere bellar incoordination. Rate functional performance regardless of underlying motor disorder.	
Normal.	0
Mildly impaired.	1
Moderately impaired.	2
Severely impaired.	3
Can barely perform the task.	4

9. Leg agility Patient is sitting and taps heel on ground in rapid succession, picking up entire leg. Amplitude should be approximately 10 cm, rate the worst affected leg. Note that impaired performance on this task can be caused by bradykinesia and/or cerebellar incoordination. Rate functional performance, regardless of underlying motor disorder.	
Normal.	0
Mildly impaired.	1
Moderately impaired.	2
Severely impaired.	3
Can barely perform the task.	4

10. Heel-knee-shin test The patient is requested to raise one leg and place the heel on the knee, and then slide the heel down the anterior tibial surface of the resting leg toward the ankle. On reaching the ankle joint, the leg is again raised in the air to a heig ht of approximately 40 cm and the action is repeated. At least three movements of each limb must be performed for proper assessment. Rate the worst affected limb.	
Normal.	0
Mildly dysmetric and ataxic.	1
Moderately dysmetric and ataxic.	2
Severely dysmetric and ataxic.	3
Can barely perform the task.	4

11. Arising from chair Patient attempts to arise from a straight-back wood or metal chair with arms folded across chest.	
Normal.	0
Clumsy, or may need more than one attempt.	1
Pushes self up from arms of seat.	2

Tends to fall back and may have to try more than once but can get up without help.	3
Unable to arise without help.	4

12. Posture Patient attempts to arise from a straight-back wood or metal chair with arms folded across chest.	
Normal.	0
Not quite erect, slightly stooped posture; could be normal for older person.	1
Moderately stooped posture, definitely abnormal; can be slightly leaning to one side.	2
Severely stooped posture with kyphosis; can be moderately leaning to one side.	3
Marked flexion with extreme abnormality of posture.	4

13. Body sway Rate spontaneous body sway and response to sudden, strong posterior displacement produced by pull on shoulder while patient erect with eyes open and feet slightly apart. Patient has to be warned.	
Normal.	0
Slight body sway and/or retropulsion with unaided recovery.	1
Moderate body sway and/or deficient postural response; might fall if not caught by examiner.	2
Severe body sway. Very unstable. Tends to lose balance spontaneously.	3
Unable to stand without assistance.	4

14. Gait Rate spontaneous body sway and response to sudden, strong posterior displacement produced by pull on shoulder while patient erect with eyes open and feet slightly apart. Patient has to be warned.	
Normal.	0
Mildly impaired.	1
Moderately impaired. Walks with difficulty, but requires little or no assistance.	2
Severely impaired. Requires assistance.	3
Cannot walk at all, even with assistance.	4

Total score Part II: _____

Part III: Autonomic Examination

Supine blood pressure and heart rate are measured after 2 minutes of rest and again after 2 minutes of standing. Orthostatic symptoms may include lightheadedness, dizziness, blurred vision, weakness, fatigue, cognitive impairment, nausea, palpitations, tremulousness, headache, neck and "coat-hanger" ache.

Systolic blood pressure	Supine	
	Standing (2 minutes)	
	Unable to record	
Diastolic blood pressure	Supine	
	Standing (2 minutes)	
	Unable to record	
Heart rate	Supine	
	Standing (2 minutes)	
	Unable to record	
Orthostatic symptoms	Yes	
	No	

Part IV: Global Disability Scale

1. Completely independent. Able to do all chores with minimal difficulty or impairment. Essentially normal. Unaware of any difficulty.
2. Not completely independent. Needs help with some chores.
3. More dependent. Help with half of chores. Spends a large part of the day with chores.
4. Very dependent. Now and then does a few chores alone or begins alone. Much help needed.
5. Totally dependent and helpless. Bedridden.

References

Authors: Gregor K. Wenning, Francois Tison, Klaus Seppi, Cristina Sampaio, Anja Diem, Farid Yekhlef, Imad Ghorayeb, Fabienne Ory, Monique Galitzky, Tommaso Scaravilli, Maria Bozi, Carlo Colosimo, Sid Gilman, Clifford W. Shults, Niall P. Quinn, Olivier Rascol, Werner Poewe, and the Multiple System Atrophy Study Group; Krismer F, Seppi K, Tison F, Sampaio C, Zangerl A, Peralta C, Yekhlef F, Ghorayeb I , Ory-Magne F, Galitzky M, Bozi M, Scaravilli T, Colosimo C, Geser F, Rascol O, Poewe W, Quinn NP, Wenning GK et al. The Unified Multiple System Atrophy Rating Scale: Intrarater reliability. Movement Disorders. 2012 Oct; 27(13) 1683-1685.

Progressive Supranuclear Palsy Rating Scale (PSPRS)

For technique of administration, see Golbe LI , Ohman-Strickland PE. Brain 2007 (http://brain.oxfordjournals.org/content/130/6/1552.long)

For information on PSP, contact CurePSP at 1-800-457-4777 / www.psp.org

I. HISTORY (from patient or other informant)

1. Withdrawal (relative to baseline personality)	
None	0
Follows conversation in a group, may respond spontaneously, but rarely if ever initiates exchanges.	1
Rarely or never follows conversation in a group.	2
2. Irritability (relative to baseline personality)	
No increase in aggressiveness	0
Increased, but not interfering with family interactions	1
Interfering with family interactions	2
3. Dysphagia for solids	
Normal; no difficulty with full range of food textures	0
Tough foods must be cut up into small pieces	1
Requires soft solid diet	2
Requires pureed or liquid diet	3
Tube feeding required for some or all feeding	4
4. Using knife and fork, buttoning clothes, washing hands and face (rate the worst)	
Normal	0
Somewhat slow but no help required	1
Extremely slow; or occasional help needed	2
Considerable help needed but can do some things alone	3
Requires total assistance	4
5. Falls (average frequency if patient attempted to walk unaided)	
None in the past year	0

< 1 per month; gait may otherwise be normal	**1**
1-4 per month	**2**
5-30 per month	**3**
> 30 per month (or chairbound)	**4**
6. Urinary incontinence	
None or a few drops less than daily	**0**
A few drops staining clothes daily	**1**
Large amounts, but only when asleep; no pad required during day	**2**
Occasional large amounts in daytime; pad required	**3**
Consistent, requiring diaper or catheter awake and asleep	**4**
7. Sleep difficulty	
Neither 1° nor 2° insomnia (i.e., falls asleep easily and stays asleep)	**0**
Either 1° or 2° insomnia; averages at least 5 hours sleep nightly	**1**
Both 1° and 2° insomnia; averages at least 5 hours sleep nightly	**2**
Either 1° or 2° insomnia; averages less than 5 hours sleep nightly	**3**
Both 1° and 2° insomnia; averages less than 5 hours sleep nightly	**4**

II. MENTAL EXAM

Items 8-11 use this scale: **0** Clearly absent activities of daily living (ADL), **1** Equivocal or minimal, **2** Clearly present, but not affecting, **3** Interfering mildly with ADL, **4** Interfering markedly with ADL

8. Disorientation	
9. Bradyphrenia	
10. Emotional incontinence	
11. Grasping/imitatative/utilizing behavior	

III. BULBAR EXAM

12. Dysarthria (ignoring palilalia)	
None	**0**
Minimal; all or nearly all words easily comprehensible (to examiner, not family)	**1**
Definite, moderate; most words comprehensible	**2**

Severe; may be fluent but most words incomprehensible	3
Mute; or a few poorly comprehensible words	4
13. Dysphagia (for 30-50 cc of water from a cup, if safe)	
None	0
Fluid pools in mouth or pharynx, or swallows slowly, but no choking/coughing	1
Occasionally coughs to clear fluid; no frank aspiration	2
Frequently coughs to clear fluid; may aspirate slightly; may expectorate frequently rather than swallow secretions	3
Requires artificial measures (oral suctioning, tracheostomy or feeding gastrostomy) to avoid aspiration	4

IV. SUPRANUCLEAR OCULAR MOTOR EXAM

Items 14-16 use this scale. Rate by inspection of saccades on command from the primary position of gaze to a stationary target.

0 Not slow or hypometric; 86-100% of normal amplitude, **1** Slow or hypometric; 86-100% of normal amplitude, **2** 51-85% of normal amplitude, **3** 16-50% of normal amplitude, **4** 15% of normal amplitude or worse

14. Voluntary upward saccades	
15. Voluntary downward saccades	
16. Voluntary left and right saccades	
17. Eyelid dysfunction	
None	0
Blink rate decreased (< 15/minute) but no other abnorm.	1
Mild inhibition of opening or closing or mild blepharospasm; no visual disability	2
Moderate lid-opening inhibition or blepharospasm causing partial visual disability	3
Functional blindness or near-blindness because of involuntary eyelid closure	4

V. LIMB EXAM

18. Limb rigidity (rate the worst of the four) 0 1 2 3 4	
Absent	0
Slight or detectable only on activation	1

Definitely abnormal, but full range of motion possible	2
Only partial range of motion possible	3
Little or no passive motion possible	4
19. Limb dystonia (rate worst of the four; ignore neck and face)	
Absent	0
Subtle or present only when activated by other movement	1
Obvious but not continuous	2
Continuous but not disabling	3
Continuous and disabling	4
20. Finger tapping (if asymmetric, rate worse side)	
Normal (>14 taps/5 sec with maximal amplitude)	0
Impaired (6-14 taps/5 sec or moderate loss of amplitude	1
Barely able to perform (0-5 taps/5 sec or severe loss of amplitude)	2
21. Toe tapping (if asymmetric, rate worse side)	
Normal (>14 taps/5 sec with maximal amplitude)	0
Impaired (6-14 taps/5 sec or moderate loss of amplitude	1
Barely able to perform (0-5 taps/5 sec or severe loss of amplitude)	2
22. Apraxia of hand movement	
Absent	0
Present, not impairing most functions	1
Impairing most functions	2
23. Tremor in any part	
Absent	0
Present, not impairing most functions	1
Impairing most functions	2

VI. GAIT/MIDLINE EXAM

24. Neck rigidity or dystonia	
Absent	0
Slight or detectable only when activated by other movement	1
Definitely abnormal, but full range of motion possible	2
Only partial range of motion possible	3
Little or no passive motion possible	4

25. Arising from chair	
Normal	**0**
Slow but arises on first attempt	**1**
Requires more than one attempt, but arises without using hands	**2**
Requires use of hands	**3**
Unable to arise without assistance	**4**
26. Gait	
Normal	**0**
Slightly wide-based or irregular or slight pulsion on turns	**1**
Must walk slowly or occasionally use walls or helper to avoid falling, especially on turns	**2**
Must use assistance all or almost all the time	**3**
Unable to walk, even with walker; may be able to transfer	**4**
27. Postural stability (on backward pull)	
Normal (shifts neither foot or one foot)	**0**
Must shift each foot at least once but recovers unaided	**1**
Shifts feet and must be caught by examiner	**2**
Unable to shift feet; must be caught, but does not require assistance to stand still	**3**
Tends to fall without a pull; requires assistance to stand still	**4**
28. Sitting down (may touch seat or back but not arms of chair)	
Normal	**0**
Slightly stiff or awkward	**1**
Easily positions self before chair, but descent into chair is uncontrolled	**2**
Has difficulty finding chair behind him/her and descent is uncontrolled	**3**
Unable to test because of severe postural instability	**4**

SECTION TOTALS

HISTORY	0-24	
MENTATION	0-16	
BULBAR	0-8	
OCULAR	0-16	

LIMB	0-16	
GAIT	0-20	
TOTAL	0-100	

OTHER EXAMINATION:

IMPRESSION:

PLAN:

Reference:
Golbe LI , Ohman-Strickland PE. Brain 2007

Restless Legs Scale (...)

The IRLS Rating Scale was developed by the International Restless Legs Syndrome Study Group (IRLSSG) to assess the severity of a patient's RLS symptoms. Ask your patient the 10 questions listed below and have them rate their symptoms from 0 to 4. Mark each answer and total their IRLS score. It will range from 0 to 40. The IRLS Rating Scale was validated in a controlled study and found to have high levels of internal consistency, interexaminer reliability, and test-retest reliability. The IRLSSG is an organization of professionals committed to advancing basic and clinical research on RLS. To learn more about the group, visit www.irlssg.org.

In the past week:	Score
Overall, how would you rate the RLS discomfort in your legs or arms? **4** Very severe, **3** Severe, **2** Moderate, **1** Mild, **0** None	
Overall, how much relief of your RLS arm or leg discomfort did you get from moving around? **4** No relief, **3** Mild relief, **2** Moderate relief, **1** Either complete or almost complete relief, **0** No RLS symptoms to be relieved	
How severe was your tiredness or sleepiness during the day due to your RLS symptoms? **4** Very sever,e **3** Severe, **2** Moderate, **1** Mild, **0** None	
How often did you get RLS symptoms? **4** Very often (6–7 days in 1 week), **3** Often (4–5 days in 1 week), **2** Sometimes (2–3 days in 1 week), **1** Occasionally (1 day in 1 week). **0** Never	
Overall, how severe was the impact of your RLS symptoms, on your ability to carry out your daily affairs, for example, carrying out a satisfactory family, home, social, school, or work life? **4** Very severe, **3** Severe, **2** Moderate, **1** Mild, **0** None	
Add the scores from above and share the total with your patient. Mild **0** to **10**, Moderate **11** to **20**, Severe **21** to **30**, Very Severe **31** to **40** **Total Score**	

Reference:
The International Restless Legs Syndrome Study Group. Validation of the International Restless Legs Syndrome Study Group Rating Scale for Restless Legs Syndrome.
Sleep Med. 2003;4(2):121-132.

Lewy Body Composite Risk Score (LBCRS)

Purpose of Use

The Lewy body dementias, composed of two related disorders: Dementia with Lewy bodies (DLB) and Parkinson's disease dementia (PDD) are a challenge to diagnose, particularly outside of expert centers. One of the great challenges in differential diagnosis of neurodegenerative disorders is attributing clinical symptoms to specific pathologies to guide treatment choices and discuss prognosis and clinical course. While PDD provides a potentially easier route to diagnosis because the cognitive disorder begins in face of an established movement disorder and criteria have defined a mild cognitive impairment (MCI) state, DLB is a more difficult entity to diagnose with delays in diagnosis approaching 18 months leading to significant burden to patients and caregivers. Patients with DLB are often misdiagnosed. While consensus criteria for DLB have excellent specificity (79-100%), there is no standardized way to assess or operationalize many of the cognitive and behavioral symptoms which markedly decreases sensitivity in clinical practice (range 12-88%). We developed the Lewy Body Composite Risk Score (LBCRS) to improve the ability to detect DLB and PDD in clinic and research populations and increase the likelihood of determining whether Lewy bodies are contributing pathology to the cognitive diagnosis. The LBCRS was derived from clinical features in autopsy-verified cases of healthy controls, Alzheimer's disease (AD), DLB, and PD with and without dementia. The LBCRS was tested in a consecutive series of 256 patients compared with the Clinical Dementia Rating and gold standard measures of cognition, motor symptoms, function, and behavior. The LBCRS increases diagnostic probability that Lewy body pathology is contributing to the dementia syndrome and should improve clinical detection and enrollment for clinical trials.

Administration and Scoring Guidelines

The questions are completed by a clinician after interview with patient and caregiver and a complete physical and neurological exam. The operationalization of physical findings as being present for at least 6 months or symptoms occurring at least 3 times over the past 6 months permitted the scoring of the LBCRS by totaling the sum of signs and symptoms rated as present. In the context of a patient with cognitive impairment, the LBCRS can increase the probability that Lewy bodies are a significant contributor to the clinical diagnosis.

The LBCRS has 10 Yes/No questions; 4 questions cover motor symptoms while 6 questions cover non-motor symptoms. The clinician rates the presence or absence of physical signs and can elicit information from either the patient or caregiver regarding the presence or absence of symptoms.

Interpretation of the QDRS

A screening test in itself is insufficient to diagnose a dementing disorder. The LBCRS is, however, quite sensitive to suggesting that there is a high probability that Lewy bodies are a contributing pathology to the underlying cognitive decline either as a single pathology or as a mixed dementia. The LBCRS discriminates DLB, PDD and MCI due to Lewy body disease from other forms of cognitive impairment.

The LBCRS is scored on a continuous scale with a range of 0-10. Based on receiver operator characteristic curves from 265 individuals included in the development and validation samples, LBCRS scores differentiate with the following cut-points:

Non Lewy Body Case	0-2
Probable Lewy Body Case	3-10

Using the cutoff of 3 or greater, the LBCRS was able to discriminate:

	DLB vs. AD	DLB vs any dementia	MCI DLB vs MCI AD
Area Under Curve	0.94 (0.90-0.97)	0.94 (0.91-0.98)	0.96 (0.91-1.0)
Sensitivity	94.2	97.9	100
Specificity	78.2	86.1	72.9
Positive Likelihood Ratio	4.1	7.0	3.2
Negative Likelihood Ratio	0.08	0.02	0.0

Please rate the following physical findings being present or absent for the past 6 months and symptoms as being present or absent for at least 3 times over the past 6 months. Does the patient...	YES	NO
Have slowness in initiating and maintaining movement or have frequent hesitations or pauses during movement?		
Have rigidity (with or without cogwheeling) on passive range of motion in any of the 4 extremities?		
Have a loss of postural stability (balance) with or without frequent falls?		
Have a tremor at rest in any of the 4 extremities or head?		
Have excessive daytime sleepiness and/or seem drowsy and lethargic when awake? Have episodes of illogical thinking or incoherent, random thoughts?		
Have frequent staring spells or periods of blank looks?		
Have visual hallucinations (see things not really there)?		
Appear to act out his/her dreams (kick, punch, thrash, shout or scream)?		
Have orthostatic hypotension or other signs of autonomic insufficiency?		
TOTAL SCORE		

LBCRS Permission Policy

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Reference:

Galvin, J. E. (2015). Improving the clinical detection of Lewy body dementia with the Lewy body composite risk score. Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring, 1(3), 316-324.

EVER PHARMA

DAC/INT/05/2021/11

D-*mine*® Pen

Injections with Apomorphine may provide a quick start with Early-Morning-Offs in Parkinson´s[1] and a smooth switch to continuous subcutaneous Apomorphine **D-*mine*® Pump** infusions[2]

Please refer to the package leaflet of the pharmaceutical product and the instructions for use of the medical devices for further information.

1 Isaacson et al., 2016
2 SmPC, 2019

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