

NINDS CDE Guideline
Summary of Diagnostic Criteria and Assessments for Psychosis in Parkinson's Disease:
Report of an NINDS, NIMH Work Group.

Psychotic symptoms frequently occur in Parkinson's Disease (PD)(Fernandez et al., 2008). However, the PD Psychosis (PDPsy) is not adequately described by the criteria that exist for psychotic disorders. Therefore, criteria to adequately diagnose PDPsy were proposed in a NIH workshop (Ravina et al., 2007). These provisional diagnostic criteria define clinical features not shared by other psychotic syndromes, and while still requiring validation these criteria are a "starting point for studies of the epidemiology and pathophysiology of PDPsy, and are a potential indication for therapy development."(Ravina et al., 2007)

The definitions proposed at the work shop to help develop PDPsy included:

Psychosis: A global term to encompass hallucinations, delusions and the "minor" phenomena of illusions, "passage hallucinations" and "sense of presence".

Hallucinations: Abnormal perceptions without a physical stimulus that can involve any sensory modality and may be simple or complex in form.

Illusions: Misperceptions of real stimuli which are often visual in nature.

Delusions: False, fixed, idiosyncratic beliefs that are maintained despite evidence to the contrary.

Sense of presence: Experience that someone is present when nobody is actually there.

Passage hallucinations: Fleeting, vague imaging in the peripheral vision (Ravina et al., 2007, Fernandez et al., 2008).

Unlike the pattern of hallucinations and delusions seen in substance induced psychosis and schizophrenia, PDPsy has a well-characterized temporal and clinical profile (Sanchez-Ramos et al., 1996, Barnes and David, 2001, Holroyd et al., 2001, Inzelberg et al., 1998, Marsh, 2004). Because of this unique profile coupled with PDPsy association with a poor prognosis of chronic psychosis, nursing home placement (Aarsland et al., 2000), and death (Factor et al., 2003) as well as association with Lewy bodies pathology, imbalances of monoaminergic neurotransmitters, and visuospacial processing deficits, it is suggested that PDPsy results from the progression of PD disease process, rather than drug intoxication or a comorbid psychiatric disorder (Ravina et al., 2007).

The PDPsy diagnostic criteria were based on an extensive review of the literature and describe a "distinctive constellation of clinical features that are not shared by other psychotic syndromes" (Ravina et al., 2007).

PDPsy Diagnostic Criteria

Characteristic symptoms

Presence of at least one of the following symptoms (specify which of the symptoms fulfill the criteria):

Illusions

False sense of presence

Hallucinations

Delusions

Primary diagnosis

UK brain bank criteria for PD

Chronology of the onset of symptoms of psychosis

The symptoms in criterion A occur after the onset of PD

Duration

The symptom(s) in criterion A are recurrent or continuous for 1 mo

Exclusion of other causes

The symptoms in criterion A are not better accounted for by another cause of Parkinsonism such as dementia with Lewy bodies, psychiatric disorders such as schizophrenia, schizoaffective disorder, delusional disorder, or mood disorder with psychotic features, or a general medical condition including delirium

Associated features (Specify if associated)

Parkinson's Disease V1.0

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With/without insight

With/without dementia

With/without treatment for PD (specify drug, surgical, other)

Fernandez et al. (2008) through a Movement Disorder Society (MDS) established Task Force on Rating Scales in PD, rated scales to address psychotic phenomena specific to PD. The authors reviewed 12 psychosis scales and questionnaires

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Summary of the “use recommendations” of psychosis scales used in PD (Fernandez et al., 2008)

Scale	Short Description	Applied in PD	Used in studies beyond original article	Satisfactory clinimetric assessment	Recommendation
Parkinson Psychosis Rating Scale (Friedberg et al., 1998)	This scale rates the content, quality, severity, and frequency of 6 domains of psychotic incidence in PD and the functional impact based on family report (Fernandez et al., 2008). Six items scored on a 4 point scale: 1 = absent to 4 = severe symptoms Scoring guidelines: Mild = 8 to 12; moderate = 13 to 18; severe = 19 to 24	✓			Suggested
Parkinson Psychosis Questionnaire (Brandstaedter et al., 2005)	Screening instrument to detect early recognition of psychosis in PD. The instrument consists of screening questions which quantifies the frequency and severity in the clinical categories of: sleep disturbances, hallucinations/illusions, delusions, and orientation. Scoring: Multiplicative PPQ _{score} and Additive PPQ _{score} are calculated based on the frequency and severity scores in each of the 4 domains Brandstaedter et al., 2005).	✓			Suggested
Rush Hallucination Inventory (Goetz et al., 2001, Pappert et al., 1999)	This 53-item inventory assessed the presence or absence, severity, and characteristics of sleep fragmentation, altered dream phenomena, and hallucinations/illusions over the previous 30 days (Goetz et al., 2001, Pappert et al., 1999, Sampaio et al., 2012).	✓			Listed

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Scale	Short Description	Applied in PD	Used in studies beyond original article	Satisfactory clinimetric assessment	Recommendation
Baylor Hallucination Questionnaire (Ondo et al., 2005)	This 6-item, 4-point scale questionnaire assesses visual hallucinations, auditory hallucinations, presence hallucinations and insight: “can you tell that the hallucinations are not real?”, “do you attempt to communicate with the hallucinations?”, and “how upset is your family by the hallucinations?” (Fernandez et al., 2008; Ondo et al., 2005). The scoring is as follows: 0 = I do not have this problem; 1 = rare; 2 = occasionally (about once/week); 4 = all the time (more than once each day) (Fernandez et al., 2008).	✓			Listed
Neuropsychiatric Inventory (NPI) (Cummings et al., 1994)	This inventory assesses 10 behavioral disturbances in dementia patients including: delusions, hallucinations, dysphoria, anxiety, agitation/aggression, euphoria, disinhibition, irritability/ability, apathy, and aberrant motor activity. Both frequency and severity of each behavior is determined, and only those behavioral domains with positive responses are scored Cummings et al., 1994).	✓	✓	✓	Recommended
Behavioral Pathology in Alzheimer’s Disease Rating Scale (BEHAVE-AD) (Reisberg et al., 1987, Auer et al., 1996, De Deyn et al., 1999, Harwood et al., 1998)	The BEHAVE-AD is a 25-item assessment tool, in which the caregiver rates the presence of specific behaviors of the patient on a 4-point scale (0 = not present, 3 = most severe), with the higher the score indicating increased behavioral severity (Paulson and Lichtenberg, 2011, Harwood et al., 1998). The symptoms measured by the BEHAVE-AD are: paranoid and delusional ideation, hallucinations, activity disturbances, aggressiveness, diurnal rhythm disturbances, affective disturbances, and anxieties and phobias (Harwood et al., 1998).	✓	✓		Suggested

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Scale	Short Description	Applied in PD	Used in studies beyond original article	Satisfactory clinimetric assessment	Recommendation
Brief Psychiatric Rating Scale (BPRS) (Overall and Gorham, 1988, Overall and Gorham, 1962)	The BPRS was developed to evaluate patient change (Overall and Gorham, 1962). The BPRS is an 18-item scale with one item for hallucinatory behavior, one for suspiciousness, and one for unusual thought content. Each item is scored on a 7-point scale: Not present; Very mild; Mild; Moderate; Moderate-Severe; Severe; Extremely severe (Overall and Gorham, 1962; Fernandez et al., 2008). The total score is the sum of the scores for each of the 18-items.	✓	✓	✓	Recommended
Positive and Negative Syndrome Scale (PANSS) (Kay et al., 1987, Kay et al., 1989)	The PANSS is a 30-item scale that provides “balanced representation of positive and negative symptoms and gauges their relationship to one another and to global psychopathology” (Kay et al., 1987). The 30-item scale is composed of 7 positive symptom items; 7 negative symptoms; and 16 general psychopathology symptom items (Kay et al., 1987)(von Knorring and Lindstrom, 1995, Bell et al., 1992, Kay, 1990, Kay et al., 1988). Scoring scale for the PANSS: Absent = 1; Minimal = 2; Mild = 3; Moderate = 4; Moderate-Severe = 5; Severe = 6; Extreme = 7 with potential ranges being. 7–49 for Positive and Negative scales and 6–112 for General Psychopathology Scale. A Composite scale is found by subtracting the Negative from the Positive score (range = –42 to 42 (Kay et al., 1987).	✓	✓	✓	Recommended

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Scale	Short Description	Applied in PD	Used in studies beyond original article	Satisfactory clinimetric assessment	Recommendation
Schedule for Assessment of Positive Symptoms (SAPS) (Andreasen, 1983, Andreasen, 1984, Andreasen et al., 1990)	The SAPS is a 34-item scale with questions divided into 4 sections: Hallucinations, 6-items/1 Global hallucination rating; Delusions, 12-items/1 Global delusion rating; Bizarre Behavior, 4-items/1 Global bizarre behavior rating; and Positive Formal Thought Disorder, 8-items/1 Global positive formal thought disorder rating. Each item is scored on a scale of 0 to 5 (0 = None; 1 = Questionable; 2 = Mild; 3 = Moderate; 4 = Marked; 5 = Severe)	✓	✓	✓	Recommended
Nurses' Observation Scale for Inpatient Evaluation (NOSIE-30) (Honigfeld et al., 1966)	The NOSIE-30 is a 30-item inpatient behavior rating scale that rates behavior observed in the last 3 days. Each item is rated on a 5-point frequency scale: 0 = never; 1 = sometimes; 2 = often; 3 = usually; 4 = always (Fernandez et al., 2008; Honigfeld et al., 1966).	✓			Listed
Clinical Global Impression Scale (CGIS) (Guy, 1976, Guy, 2000)	The CGIS is comprised of 3 subscales: GI-severity; CGI-improvement; and CGI-therapeutic effect. The CGI-severity and CGI-improvement subscales use a 0-not assessed to 7-extremely ill (much worse) scoring rubric. The CGI-therapeutic effect subscale measures improvement as marked, moderate, minimal, unchanged or worse, or not assessed.	✓	✓		Suggested
Unified Parkinson disease rating scale Part I (Goetz et al., 2008, Fahn et al., 1987, UPDRS Program Members, 2008)	Part one of the UPDRS consists of 4 items: mentation, thought disorders, depression and motivation/initiative that are scored on a 0-normal–4-most severe scale.	✓			Listed

Recommended: a scale that has been applied to PD populations; there are data on its use in clinical studies beyond the group that developed the scale; and, it has been studied clinimetrically and considered valid, reliable, and sensitive to the given behavior being assessed; **Suggested:** the scale has been applied to PD populations, but only one of the other criteria is fulfilled; **Listed:** the scale has been applied to PD populations, but neither of the other criteria is fulfilled.

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