

# **Inquadramento clinico, evoluzione, stadi di gravità e terapia del Morbo di Parkinson**

**Filippo Maria Cogliamanian**

*UOC Neurofisiopatologia*

*Fondazione IRCCS Ca' Granda Policlinico Milano*

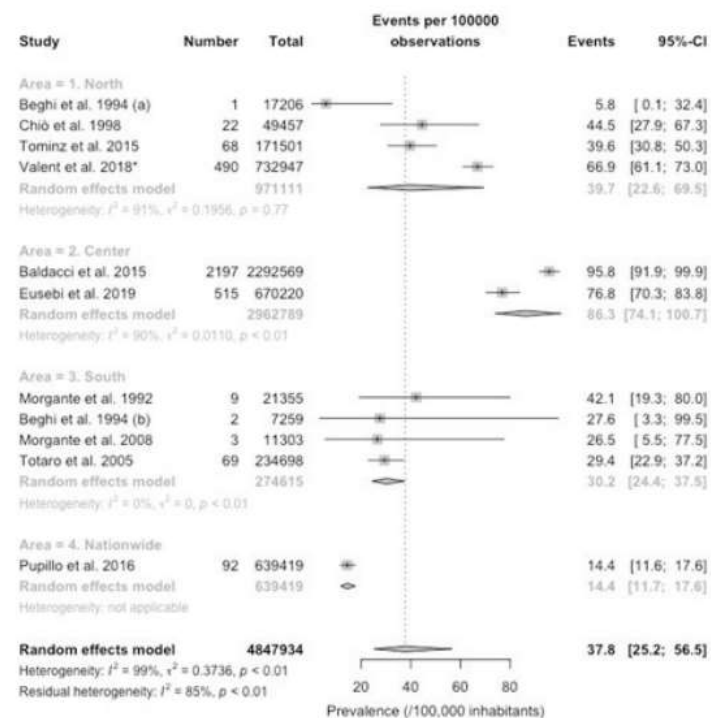
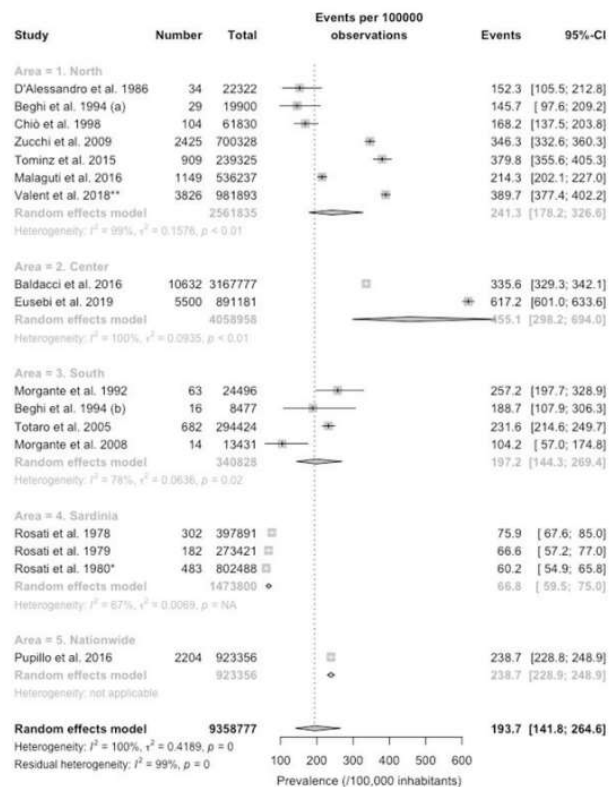
***Milano 18 gennaio 2024***

# Parkinson: EPIDEMIOLOGIA

- 1) Prevalenza globale stimata (2016) in 6.1 milioni di casi (aumentata di 2.5 volte nel corso degli ultimi 30 anni) → età, accuratezza diagnostica, esposizione prolungata a tossine ambientali
- 2) Malattia età correlata (! 25% < 65 aa e 5/10% < 50 aa)
- 3) M>F, F età esordio più avanzata

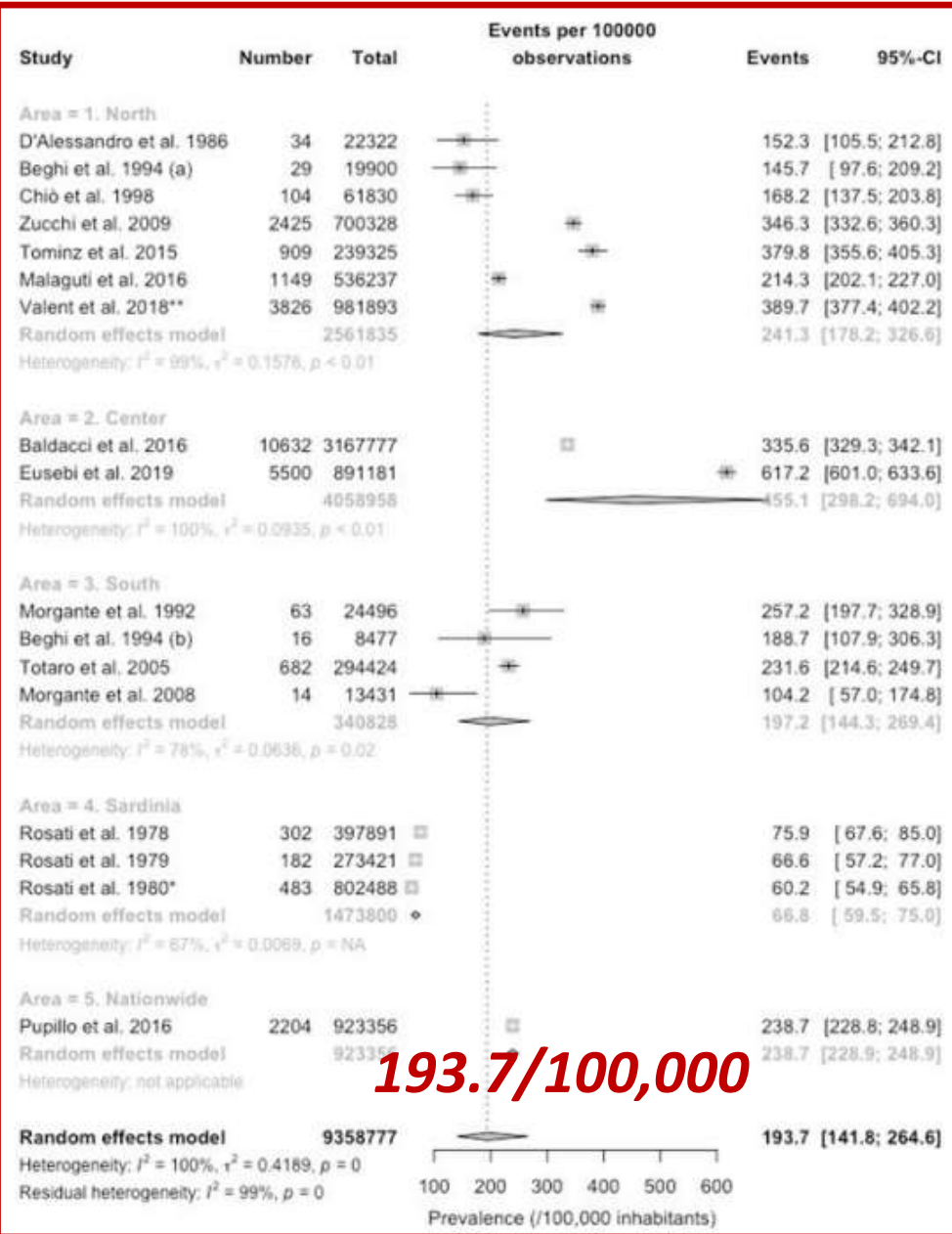
# Prevalence of Parkinson Disease in Italy: a systematic review and meta-analysis

Matteo Riccò<sup>1</sup>, Luigi Vezzosi<sup>2</sup>, Federica Balzarini<sup>3</sup>, Giovanni Gualerzi<sup>4</sup>, Silvia Ranzieri<sup>5</sup>, Carlo Signorelli<sup>3</sup>, Maria Eugenia Colucci<sup>6</sup>, Nicola Luigi Bragazzi<sup>7</sup>

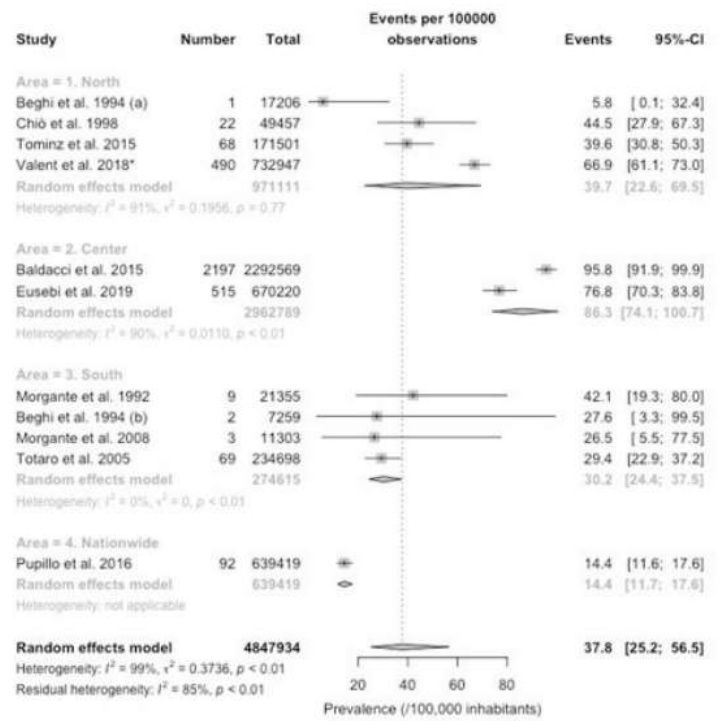


# Cholera Disease in Italy: a systematic review

Marica Balzarini<sup>3</sup>, Giovanni Gualerzi<sup>4</sup>, Silvia Ranzieri<sup>5</sup>,  
 Polucci<sup>6</sup>, Nicola Luigi Bragazzi<sup>7</sup>



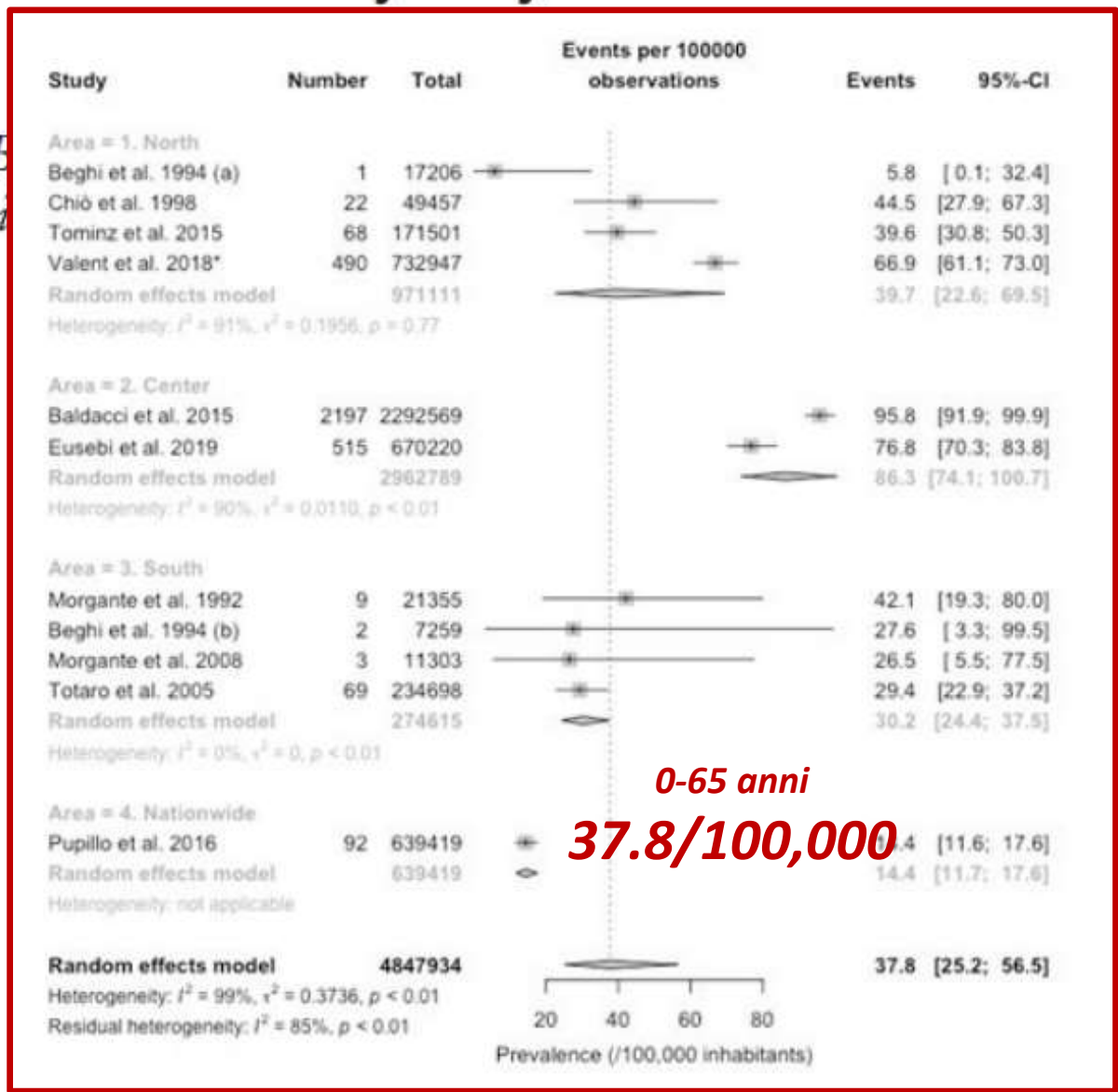
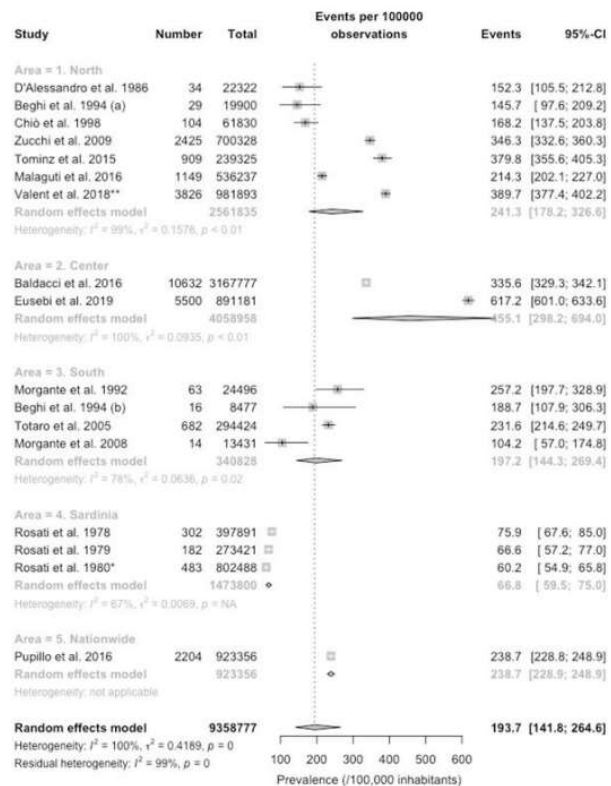
193.7/100,000



Prevalence (/100,000 inhabitants)

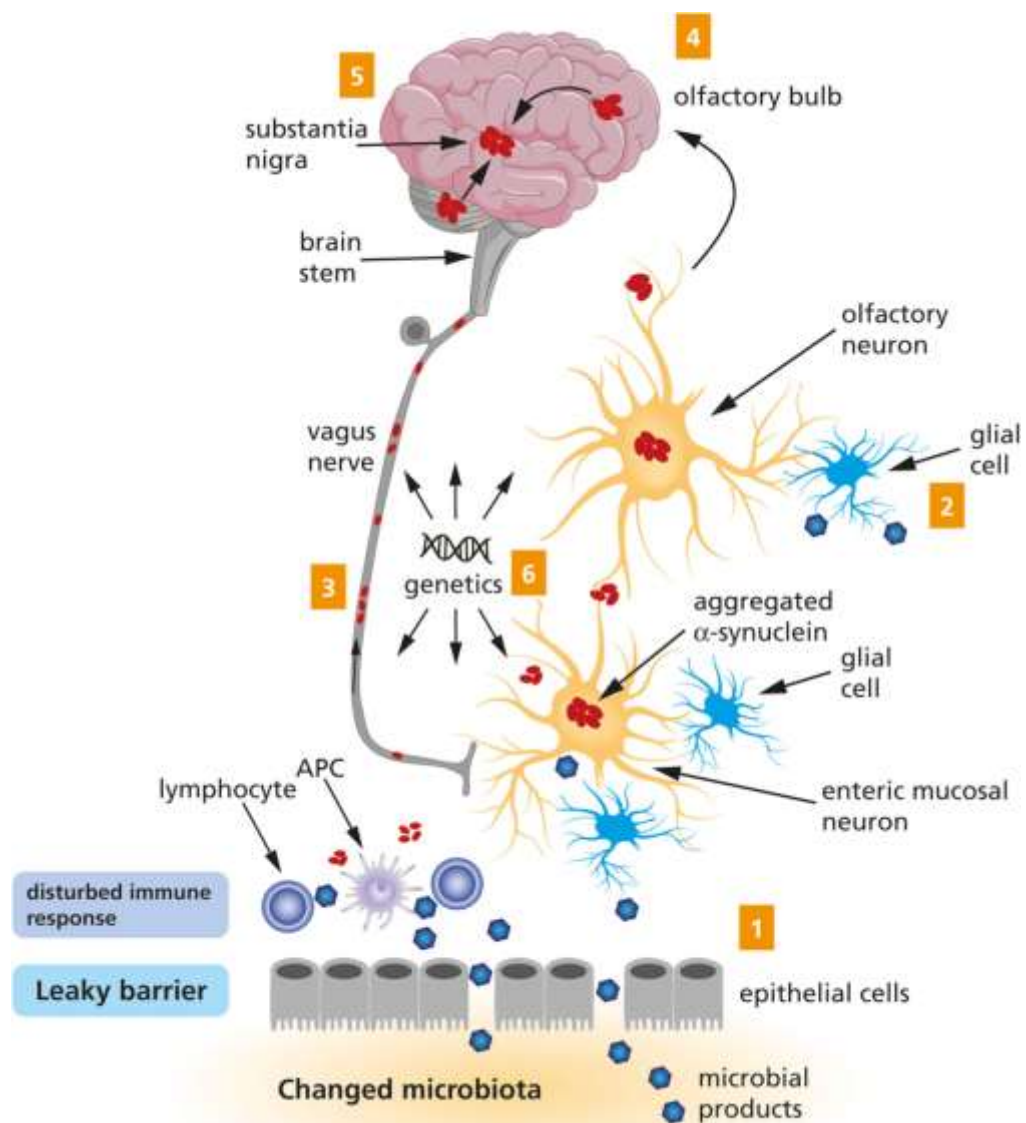
# Prevalence of Parkinson Disease in Italy: a systematic review and meta-analysis

Matteo Riccò<sup>1</sup>, Luigi Vezzosi<sup>2</sup>, Federica B...  
Carlo Signorelli<sup>3</sup>, Maria Eugenia Colucci





# Parkinson: “sinucleinopatia”



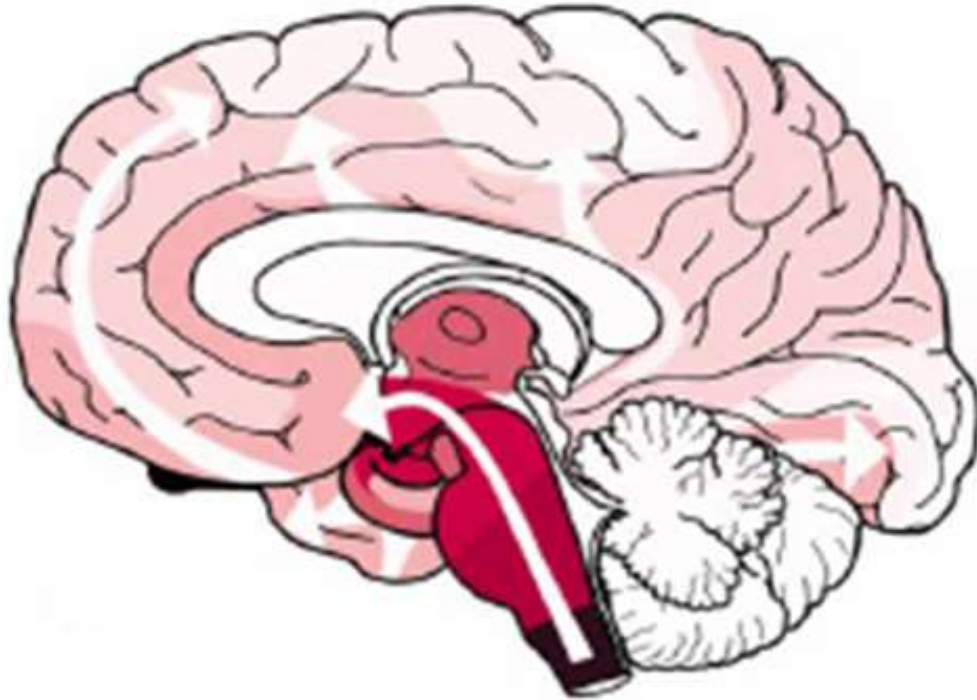
**Modello MONO-MODALE**  
**“dopaminergico”**  
**DISTURBO DEL MOVIMENTO**



**Modello MULTI-MODALE**  
**“multisistemico”**  
**SINTOMI MOTORI E NON MOTORI**

# NMS: FISIOPATOLOGIA

## “BRAAK’S HYPOTHESIS”



	dm	co	sn	mc	hc	fc
1						
2						
3						
4						
5						
6		4	3	2	1	1

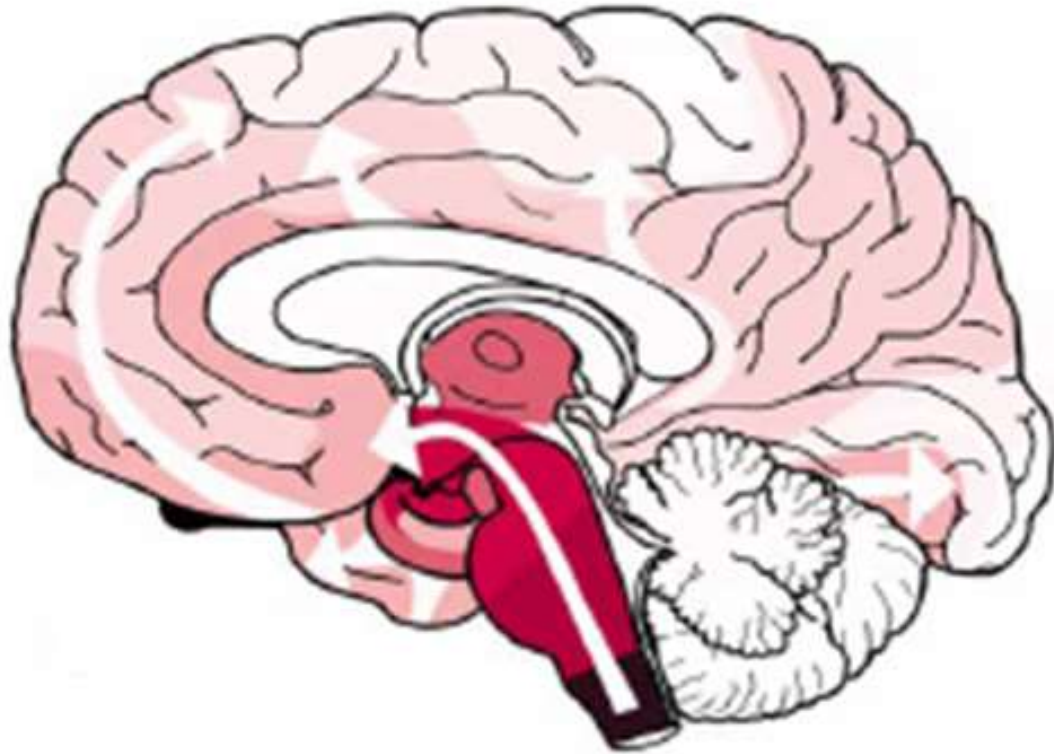
Modello di Braak (2003) → estensione LB secondo pattern caudo/rostrale

**Stadio I:** bulbo olfattorio/n.olfattivi anteriori + n.motore dorsale vago

**Stadio II:** bulbo/tegmento pontino → locus coeruleus (NA) e n del rafe (5HT)

# NMS: FISIOPATOLOGIA

## “BRAAK’S HYPOTHESIS”



	dm	co	sn	mc	hc	fc
1						
2						
3						
4						
5						
6						

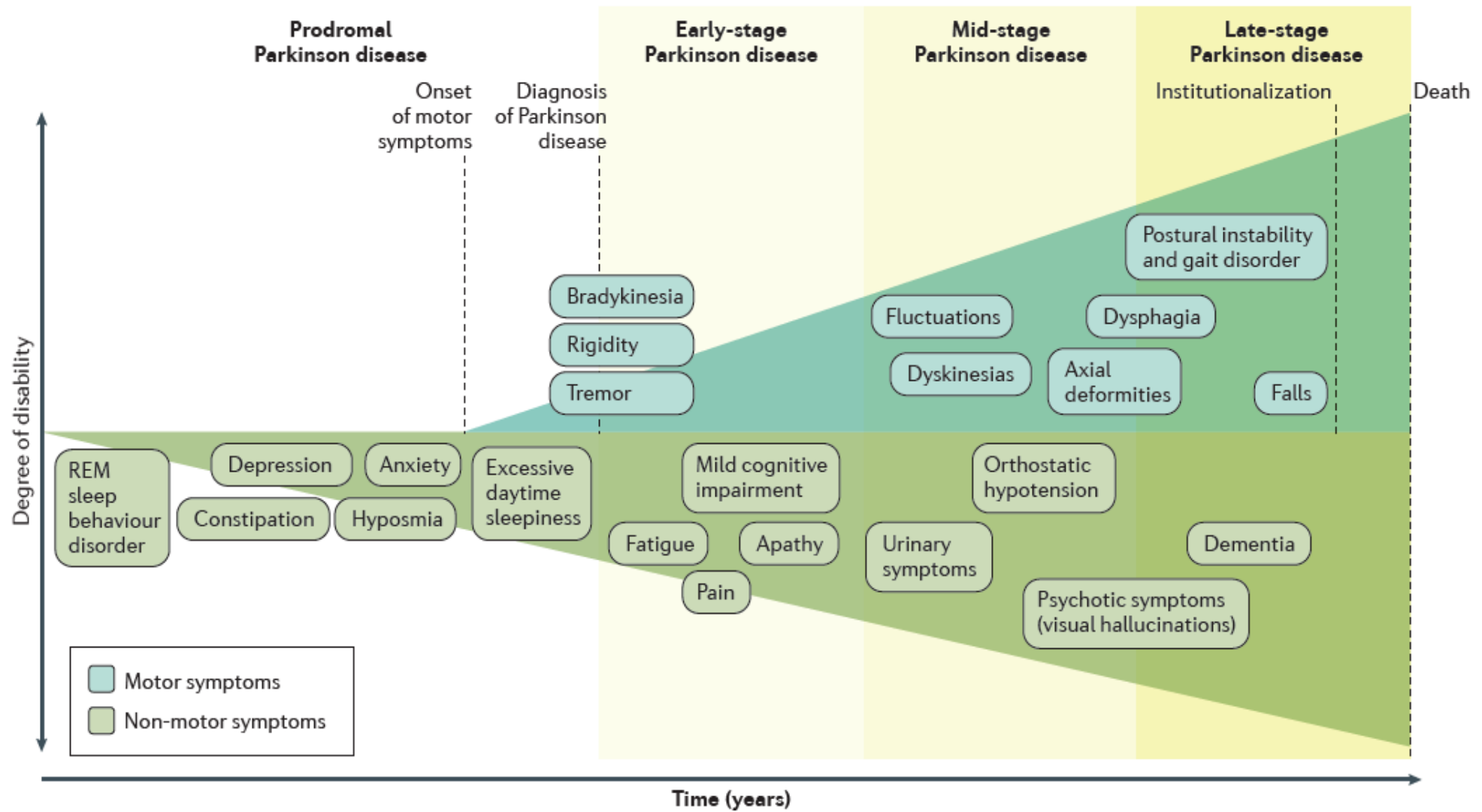
**Stadio III:** amigdala – n.colinergici mesencefalo e SOSTANZA NERA pc

**Stadio IV-VI:** estensione LB corteccia limbica e neocortex



# NMS: FISIOPATOLOGIA: “BRAAK’S HYPOTHESIS”

- 1) Analisi sistematica delle strutture interessate al processo neuropatologico (motorie e non motorie)
- 2) Definizione di una fase di malattia precedente alla comparsa dell’interessamento nigro/striatale (“**fase pre-motoria**” → stipsi, iposmia, RBD e depressione)
- 3) Collocazione dei sintomi motori/non motori su “**timeline**” in funzione della progressiva diffusione LB



# SINTOMI NON MOTORI

## **DISAUTONOMIA**

Disfunzione gastrointestinale  
Disfunzione cardiovascolare  
Disfunzione urinaria/sessuale  
Iperidrosi

## **DISTURBI DEL SONNO**

Insonnia iniziale e centrale  
Disturbi sonno REM  
Sonnolenza diurna

## **DISTURBI “SENSITIVI”**

Dolore  
Iposmia  
RLS  
Disturbi visivi

## **DISTURBI NEUROPSICHIATRICI**

Depressione/ansia  
Psicosi  
Demenza

## The Priamo Study: A Multicenter Assessment of Nonmotor Symptoms and Their Impact on Quality of Life in Parkinson's Disease

Paolo Barone, MD,<sup>1</sup> Angelo Antonini, MD,<sup>2\*</sup> Carlo Colosimo, MD,<sup>3</sup> Roberto Marconi, MD,<sup>4</sup>  
Letterio Morgante, MD,<sup>5</sup> Tania P. Avarello, MD,<sup>6</sup> Eugenio Bottacchi, MD,<sup>7</sup> Antonino Cannas, MD,<sup>8</sup>  
Gabriella Ceravolo, MD,<sup>9</sup> Roberto Ceravolo, MD,<sup>10</sup> Giulio Cicarelli, MD,<sup>11</sup> Roberto M. Gaglio, MD,<sup>12</sup>  
Rosa M. Giglia, MD,<sup>13</sup> Francesco Iemolo, MD,<sup>14</sup> Michela Manfredi, MD,<sup>15</sup> Giuseppe Meco, MD,<sup>3</sup>  
Alessandra Nicoletti, MD,<sup>16</sup> Massimo Pederzoli, MD,<sup>17</sup> Alfredo Petrone, MD,<sup>18</sup> Antonio Pisani, MD,<sup>19</sup>  
Francesco E. Pontieri, MD,<sup>20</sup> Rocco Quatrone, MD,<sup>21</sup> Silvia Ramat, MD,<sup>22</sup> Rosanna Scala, MD,<sup>23</sup>  
Giuseppe Volpe, MD,<sup>24</sup> Salvatore Zappulla, MD,<sup>25</sup> Anna Rita Bentivoglio, MD,<sup>26</sup> Fabrizio Stocchi, MD,<sup>27</sup>  
Giorgio Trianni, MD,<sup>28</sup> and Paolo Del Dotto, MD<sup>29</sup> on behalf of the PRIAMO study group



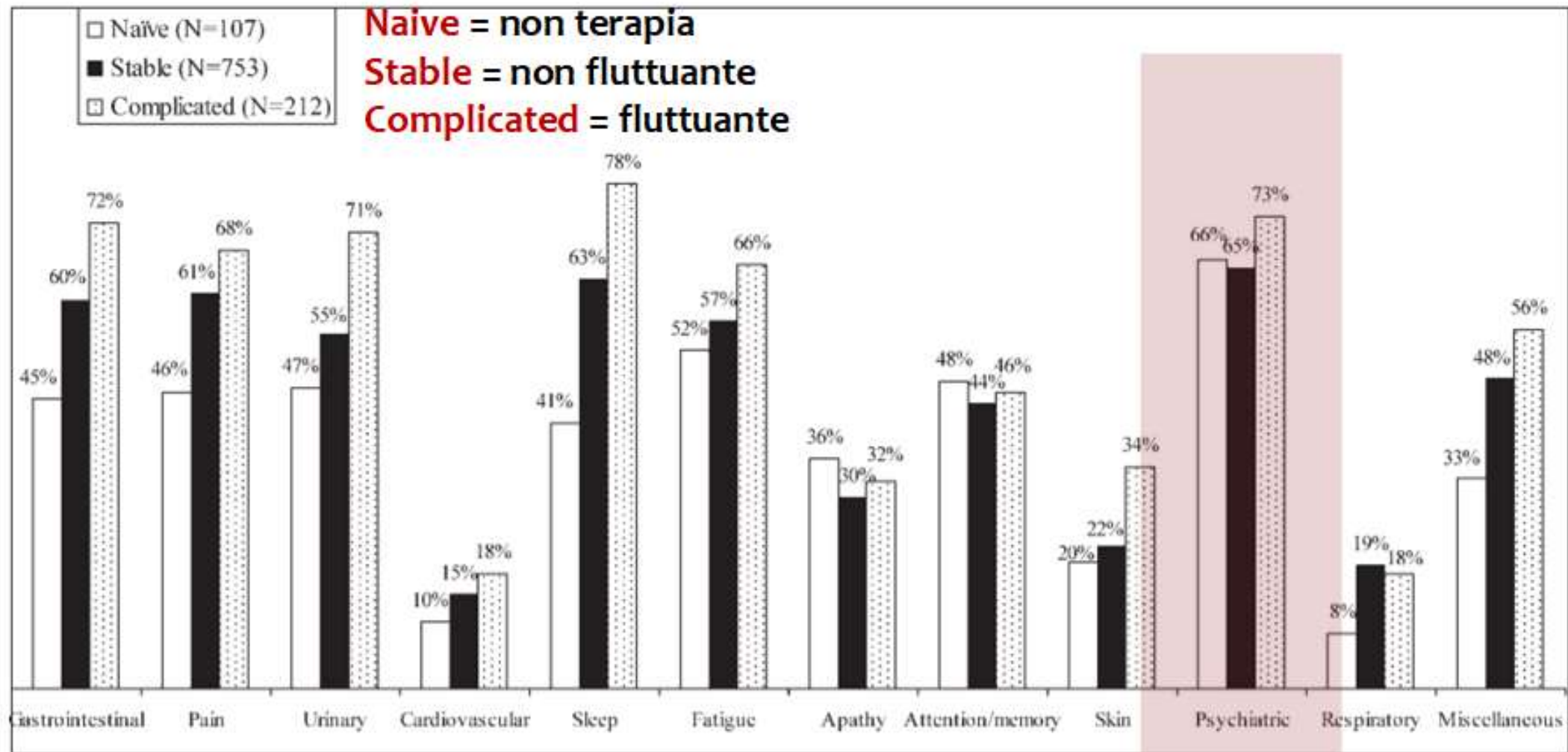
**+ 98.6%**

Disease Stage (Hoehn and Yahr scale)

NMS domains	All	1	1.5-2	2.5-3	4-5
	N = 1,072 (%)	N = 167 (%)	N = 515 (%)	N = 325 (%)	N = 49 (%)
Gastrointestinal	654 (61.0)	76 (45.5)	280 (54.4)	250 (76.9)	36 (73.5)
Pain	653 (60.9)	85 (50.9)	302 (58.6)	218 (67.1)	39 (79.6)
Urinary	614 (57.3)	72 (43.1)	266 (51.7)	222 (68.3)	44 (89.8)
Cardiovascular	158 (14.7)	22 (13.2)	70 (13.6)	53 (16.3)	11 (22.5)
Sleep	687 (64.1)	80 (47.9)	312 (60.6)	245 (75.4)	40 (81.6)
Fatigue	623 (58.1)	63 (37.7)	291 (56.5)	224 (68.9)	40 (81.6)
Apathy	328 (30.6)	41 (24.6)	138 (26.8)	119 (36.6)	24 (49.0)
Attention/memory	479 (44.7)	63 (37.7)	208 (40.4)	168 (51.7)	32 (65.3)
Skin	260 (24.3)	24 (14.4)	102 (19.8)	112 (34.5)	16 (32.7)
Psychiatric	716 (66.8)	102 (61.1)	326 (63.3)	238 (73.2)	41 (83.7)
Respiratory	191 (17.8)	16 (9.6)	80 (15.5)	74 (22.8)	15 (30.6)
Miscellaneous	515 (48.0)	62 (37.1)	247 (48.0)	168 (51.7)	29 (59.2)

**Ansia e  
Depressione**

**61.1%**



**QoL** → apatia > fatigue, difetto attentivo/memoria, cluster  
 “psichiatrico”

## The Impact of Non-Motor Symptoms on Health-Related Quality of Life of Patients with Parkinson's Disease

Pablo Martinez-Martin, MD, PhD,<sup>1,2\*</sup> Carmen Rodriguez-Blazquez, BS,<sup>1</sup> Monica M. Kurtis, MD,<sup>3</sup> and K. Ray Chaudhuri, MD, FRCP, DSC,<sup>4,5</sup> on Behalf of the NMSS Validation Group

### ABSTRACT:

**Background:** Non-motor symptoms are detrimental to health-related quality of life (HRQoL) of Parkinson's disease patients. In this study, the Non-Motor Symptoms Scale (NMSS) was used to assess the impact of the non-motor symptoms on HRQoL of Parkinson's disease patients.

**Methods:** In a multicenter, international, cross sectional study on 411 Parkinson's disease patients, the NMSS was applied along with clinical (Hoehn and Yahr staging and SCOPA-Motor) and HRQoL measures (PDQ-39, and EQ-5D). Prevalence of non-motor symptoms was determined also through the NMSS. The association of NMSS and SCOPA-Motor with HRQoL measures and the differences in HRQoL scores between patients with and without non-motor symptoms in each NMSS domain were estimated by non-parametric statistics. Predictors of HRQoL were sought through multiple linear regression analyses.

**Results:** Nocturia (68.4% of the sample), fatigue (65.9%), and dribbling saliva (56.7%), were the most frequent complaints. Total NMSS score: (1) showed a higher correlation coefficient ( $r_s = 0.70$ ) with the PDQ-39 Summary Index

(SI) than SCOPA-Motor ( $r_s = 0.58$ ); (2) showed high-moderate correlation ( $r_s = 0.60 - 0.38$ ) with all PDQ-39 domains; and (3) was the best predictor of HRQoL as measured by the PDQ-39 SI. For each NMSS domain, patients with symptoms had significantly worse HRQoL scores than patients without symptoms.

**Discussion:** To our knowledge, this is the first study to determine in a holistic manner the impact of the non-motor symptoms on HRQoL of Parkinson's disease patients. The results show that non-motor symptoms have, as a whole, a greater impact on HRQoL than motor symptoms and non-motor symptoms progression contributes importantly to HRQoL decline in patients with Parkinson's disease. © 2011 Movement Disorder Society

**Key Words:** non-motor symptoms; health-related quality of life; Parkinson's disease; assessment; non motor symptoms scale; Parkinson's disease questionnaire-39 items; EQ-5D



### Predictors of health-related quality of life in Parkinson's disease

Greg D. Kuhlman<sup>a,b,c,\*</sup>, Joseph L. Flanigan<sup>a</sup>, Scott A. Sperling<sup>a</sup>, Matthew J. Barrett<sup>a</sup>

**Background:** Health-related quality of life in Parkinson's disease may be affected by a wide range of motor and non-motor symptoms. Identifying which symptoms are significant predictors of health-related quality of life in Parkinson's disease prioritizes symptoms for treatment, therapeutic development, and clinical outcomes.

**Objectives:** To determine predictors of health-related quality of life in patients with Parkinson's disease.

**Methods:** We recruited 102 subjects into a prospective study to investigate neuropsychiatric symptoms in Parkinson's disease. Health-related quality of life was measured with the 39-item Parkinson's Disease Questionnaire. Subjects completed the Movement Disorder Society Unified Parkinson's Disease Rating Scale Parts I-IV as well as validated scales to assess anxiety, depression, apathy, cognition, psychosis, impulsive-compulsive disorder, autonomic dysfunction, sleep quality, excessive daytime sleepiness, and rapid eye movement sleep behavior disorder. We used univariate analyses to select clinical predictors to construct a multivariate regression model to determine which predictors were independently associated with worse health-related quality of life.

**Results:** In a multivariate linear regression model adjusted for age and gender, higher scores for the International Parkinson and Movement Disorder Society Unified Parkinson's Disease Rating Scale part II as well as more severe symptoms of depression, anxiety, apathy, and excessive daytime sleepiness were associated with worse health-related quality of life. The model explained 78% of the variance of health-related quality of life, and the non-motor symptoms explained 49% of the variance.

**Conclusions:** Anxiety, depression, excessive daytime sleepiness, apathy, and impairment in activities of daily living related to motor symptoms were independently associated with worse health-related quality of life.



# Parkinson: DIAGNOSI

1) la diagnosi in vita di MdP è una diagnosi clinica basata su anamnesi/esame neurologico

2) Criteri diagnostici standardizzati (**MDS CRITERIA 2015**)

a) riconoscimento della sindrome parkinsoniana (bradicinesia con rigidità e/o tremore a riposo)

b) Assenza di CRITERI DI ESCLUSIONE + bilancio tra presenza di CRITERI DI SUPPORTO e «RED FLAGS»

c) MdP **CLINICAMENTE DEFINITA** (no red flags) o **CLINICAMENTE PROBABILE**

## MDS Clinical Diagnostic Criteria for Parkinson's Disease

Ronald B. Postuma, MD, MSc,<sup>1†\*</sup> Daniela Berg, MD,<sup>2†\*</sup> Matthew Stern, MD,<sup>3</sup> Werner Poewe, MD,<sup>4</sup>  
C. Warren Olanow, MD, FRCPC,<sup>5</sup> Wolfgang Oertel, MD,<sup>6</sup> José Obeso, MD, PhD,<sup>7</sup> Kenneth Marek, MD,<sup>8</sup> Irene Litvan, MD,<sup>9</sup>  
Anthony E. Lang, OC, MD, FRCPC,<sup>10</sup> Glenda Halliday, PhD,<sup>12</sup> Christopher G. Goetz, MD,<sup>13</sup> Thomas Gasser, MD,<sup>2</sup>  
Bruno Dubois, MD, PhD,<sup>14</sup> Piu Chan, MD, PhD,<sup>15</sup> Bastiaan R. Bloem, MD, PhD,<sup>16</sup> Charles H. Adler, MD, PhD,<sup>17</sup>  
and Günther Deuschl, MD<sup>18</sup>

The first essential criterion is parkinsonism, which is defined as bradykinesia, in combination with at least 1 of rest tremor or rigidity. Examination of all cardinal manifestations should be carried out as described in the MDS–Unified Parkinson Disease Rating Scale.<sup>30</sup> Once parkinsonism has been diagnosed:

Diagnosis of **Clinically Established PD** requires:

1. Absence of absolute exclusion criteria
2. At least two supportive criteria, and
3. No red flags

Diagnosis of **Clinically Probable PD** requires:

1. Absence of absolute exclusion criteria
2. Presence of red flags counterbalanced by supportive criteria
  - If 1 red flag is present, there must also be at least 1 supportive criterion
  - If 2 red flags, at least 2 supportive criteria are needed
  - No more than 2 red flags are allowed for this category

#### Supportive criteria

(Check box if criteria met)

- 1. Clear and dramatic beneficial response to dopaminergic therapy. During initial treatment, patient returned to normal or near-normal level of function. In the absence of clear documentation of initial response a dramatic response can be classified as:
  - a) Marked improvement with dose increases or marked worsening with dose decreases. Mild changes do not qualify. Document this either objectively (>30% in UPDRS III with change in treatment), or subjectively (clearly-documented history of marked changes from a reliable patient or caregiver).
  - b) Unequivocal and marked on/off fluctuations, which must have at some point included predictable end-of-dose wearing off.
- 2. Presence of levodopa-induced dyskinesia
- 3. Rest tremor of a limb, documented on clinical examination (in past, or on current examination)
- 4. The presence of either olfactory loss or cardiac sympathetic denervation on MIBG scintigraphy



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- 3. Rest tremor of a limb, documented on clinical examination (in past, or on current examination)
- 4. The presence of either olfactory loss or cardiac sympathetic denervation on MIBG scintigraphy

**«PARKINSONISMO»:  
Bracidinesia + rigidità o tremore a riposo**



**Absolute exclusion criteria: The presence of any of these features rules out PD:**

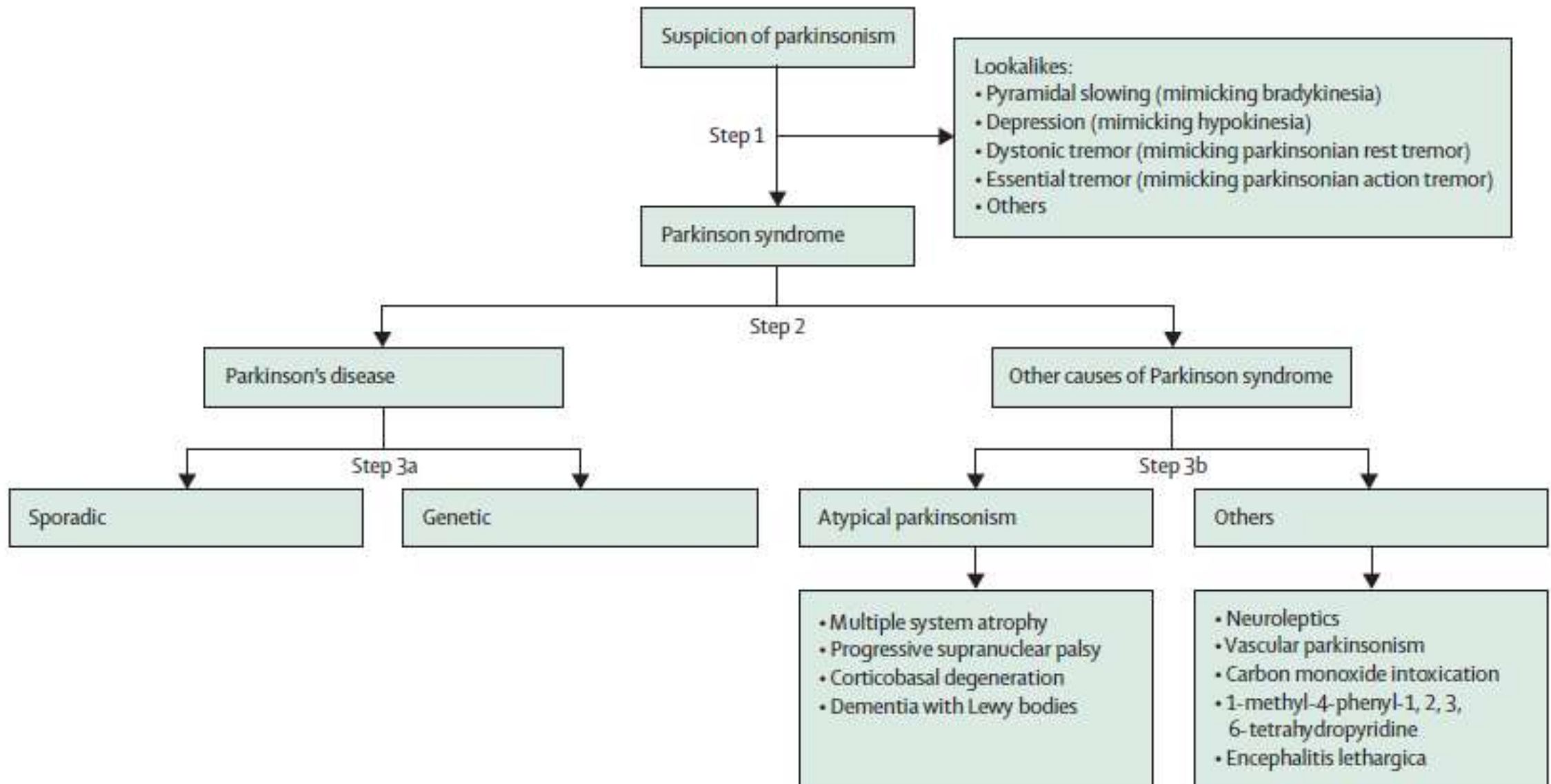
- 1. Unequivocal cerebellar abnormalities, such as cerebellar gait, limb ataxia, or cerebellar oculomotor abnormalities (eg, sustained gaze evoked nystagmus, macro square wave jerks, hypermetric saccades)
- 2. Downward vertical supranuclear gaze palsy, or selective slowing of downward vertical saccades
- 3. Diagnosis of probable behavioral variant frontotemporal dementia or primary progressive aphasia, defined according to consensus criteria<sup>31</sup> within the first 5 y of disease
- 4. Parkinsonian features restricted to the lower limbs for more than 3 y
- 5. Treatment with a dopamine receptor blocker or a dopamine-depleting agent in a dose and time-course consistent with drug-induced parkinsonism
- 6. Absence of observable response to high-dose levodopa despite at least moderate severity of disease
- 7. Unequivocal cortical sensory loss (ie, graphesthesia, stereognosis with intact primary sensory modalities), clear limb ideomotor apraxia, or progressive aphasia
- 8. Normal functional neuroimaging of the presynaptic dopaminergic system DATSCAN
- 9. Documentation of an alternative condition known to produce parkinsonism and plausibly connected to the patient's symptoms, or, the expert evaluating physician, based on the full diagnostic assessment feels that an alternative syndrome is *more likely* than PD



## Red flags

- 1. Rapid progression of gait impairment requiring regular use of wheelchair within 5 y of onset
- 2. A complete absence of progression of motor symptoms or signs over 5 or more y unless stability is related to treatment
- 3. Early bulbar dysfunction: severe dysphonia or dysarthria (speech unintelligible most of the time) or severe dysphagia (requiring soft food, NG tube, or gastrostomy feeding) within first 5 y
- 4. Inspiratory respiratory dysfunction: either diurnal or nocturnal inspiratory stridor or frequent inspiratory sighs
- 5. Severe autonomic failure in the first 5 y of disease. This can include:
  - a) Orthostatic hypotension<sup>32</sup>—orthostatic decrease of blood pressure within 3 min of standing by at least 30 mm Hg systolic or 15 mm Hg diastolic, in the absence of dehydration, medication, or other diseases that could plausibly explain autonomic dysfunction, or
  - b) Severe urinary retention or urinary incontinence in the first 5 y of disease (excluding long-standing or small amount stress incontinence in women), that is not simply functional incontinence. In men, urinary retention must not be attributable to prostate disease, and must be associated with erectile dysfunction
- 6. Recurrent (>1/y) falls because of impaired balance within 3 y of onset
- 7. Disproportionate anterocollis (dystonic) or contractures of hand or feet within the first 10 y
- 8. Absence of any of the common nonmotor features of disease despite 5 y disease duration. These include sleep dysfunction (sleep-maintenance insomnia, excessive daytime somnolence, symptoms of REM sleep behavior disorder), autonomic dysfunction (constipation, daytime urinary urgency, symptomatic orthostasis), hyposmia, or psychiatric dysfunction (depression, anxiety, or hallucinations)
- 9. Otherwise-unexplained pyramidal tract signs, defined as pyramidal weakness or clear pathologic hyperreflexia (excluding mild reflex asymmetry and isolated extensor plantar response)
- 10. Bilateral symmetric parkinsonism. The patient or caregiver reports bilateral symptom onset with no side predominance, and no side predominance is observed on objective examination

# Parkinson: *DIAGNOSI*





# Parkinson: TERAPIA

1) Terapia sintomatica «dopaminergica»

- L-DOPA + DA agonisti + iMAO-B

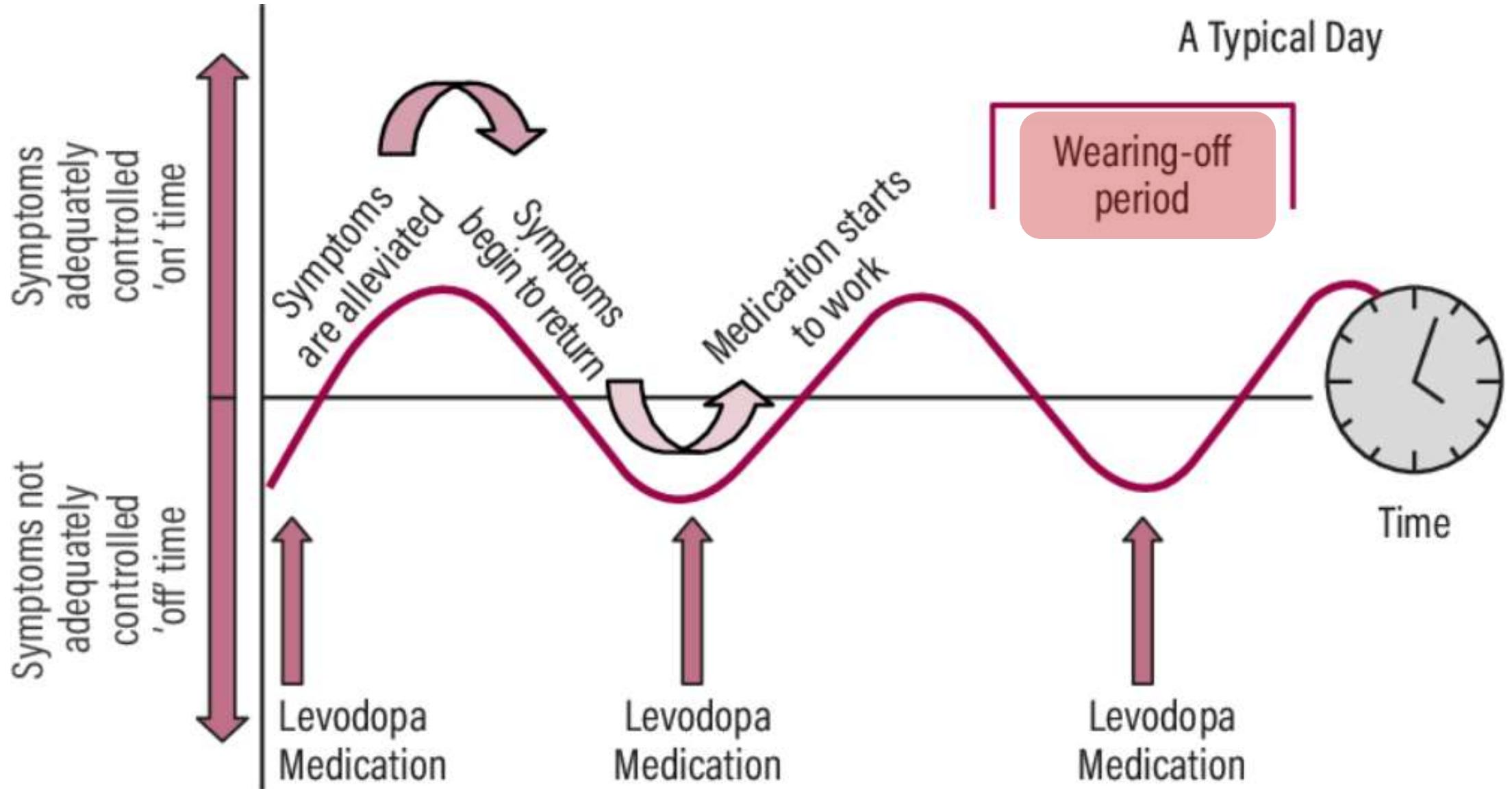
- «DOPA sparing strategy»

2) *Terapia sintomi NON-motori*

3) *Fluttuazioni motorie e non motorie*

- ON/OFF e Discinesie da L-DOPA

# Parkinson: *STORIA NATURALE & FLUTTUAZIONI*



**OFF**



**ON**





# Parkinson: STADIAZIONE

- 1) Assenza di biomarker (neuroimaging, markers tissutali o biochimici) correlati con gravità/evoluzione della malattia
- 2) *Fenomenologia clinica complessa → sintomi motori e non motori (QoL!)*
- 3) *Fluttuazioni motorie e non motorie → stato clinico variabile nel corso della giornata*

# *Movement* Disorder Society Task Force Report on the Hoehn and Yahr Staging Scale: Status and Recommendations

The *Movement* Disorder Society Task Force on Rating Scales for Parkinson's Disease

Hoehn and Yahr scale	Modified Hoehn and Yahr scale
1: Unilateral involvement only usually with minimal or no functional disability	1.0: Unilateral involvement only
2: Bilateral or midline involvement without impairment of balance	1.5: Unilateral and axial involvement
3: Bilateral disease: mild to moderate disability with impaired postural reflexes; physically independent <sup>a</sup>	2.0: Bilateral involvement without impairment of balance
4: Severely disabling disease; still able to walk or stand unassisted	2.5: Mild bilateral disease with recovery on pull test
5: Confinement to bed or wheelchair unless aided	3.0: Mild to moderate bilateral disease; some postural instability; physically independent
	4.0: Severe disability; still able to walk or stand unassisted
	5.0: Wheelchair bound or bedridden unless aided

**1-2** PD LIEVE  
**3** PD MODERATO  
**4-5** PD AVANZATO/SEVERO

# Parkinson: STADIAZIONE

## MDS-UPDRS

MDS UPDRS Score Sheet

1.A	Source of information	<input type="checkbox"/> Patient <input type="checkbox"/> Caregiver <input type="checkbox"/> Patient + Caregiver	3.3b	Rigidity- RUE	
			3.3c	Rigidity- LUE	
<b>Part I</b>			3.3d	Rigidity- RLE	
1.1	Cognitive impairment		3.3e	Rigidity- LLE	
1.2	Hallucinations and psychosis		3.4a	Finger tapping- Right hand	
1.3	Depressed mood		3.4b	Finger tapping- Left hand	
1.4	Anxious mood		3.5a	Hand movements- Right hand	
1.5	Apathy		3.5b	Hand movements- Left hand	
1.6	Features of DDS		3.6a	Pronation- supination movements- Right hand	
1.6a	Who is filling out questionnaire	<input type="checkbox"/> Patient <input type="checkbox"/> Caregiver <input type="checkbox"/> Patient + Caregiver	3.6b	Pronation- supination movements- Left hand	
			3.7a	Toe tapping-Right foot	
1.7	Sleep problems		3.7b	Toe tapping- Left foot	
1.8	Daytime sleepiness		3.8a	Leg agility- Right leg	
1.9	Pain and other sensations		3.8b	Leg agility- Left leg	
1.10	Urinary problems		3.9	Arising from chair	
1.11	Constipation problems		3.10	Gait	
1.12	Light headedness on standing		3.11	Freezing of gait	
1.13	Fatigue		3.12	Postural stability	
<b>Part II</b>			3.13	Posture	
2.1	Speech		3.14	Global spontaneity of movement	
2.2	Saliva and drooling		3.15a	Postural tremor- Right hand	
2.3	Chewing and swallowing		3.15b	Postural tremor- Left hand	
2.4	Eating tasks		3.16a	Kinetic tremor- Right hand	
2.5	Dressing		3.16b	Kinetic tremor- Left hand	
2.6	Hygiene		3.17a	Rest tremor amplitude- RUE	
2.7	Handwriting		3.17b	Rest tremor amplitude- LUE	
2.8	Doing hobbies and other activities		3.17c	Rest tremor amplitude- RLE	
2.9	Turning in bed		3.17d	Rest tremor amplitude- LLE	
2.10	Tremor		3.17e	Rest tremor amplitude- Lip/jaw	
2.11	Getting out of bed		3.18	Constancy of rest	
2.12	Walking and balance			Were dyskinesias present	<input type="checkbox"/> No <input type="checkbox"/> Yes
2.13	Freezing			Did these movements interfere with ratings?	<input type="checkbox"/> No <input type="checkbox"/> Yes
3a	Is the patient on medication?	<input type="checkbox"/> No <input type="checkbox"/> Yes		Hoehn and Yahr Stage	
3b	Patient's clinical state	<input type="checkbox"/> Off <input type="checkbox"/> On	<b>Part IV</b>		
3c	Is the patient on Levodopa?	<input type="checkbox"/> No <input type="checkbox"/> Yes	4.1	Time spent with dyskinesias	
3.C1	If yes, minutes since last dose:		4.2	Functional impact of dyskinesias	
<b>Part III</b>			4.3	Time spent in the OFF state	
3.1	Speech		4.4	Functional impact of fluctuations	
3.2	Facial expression		4.5	Complexity of motor fluctuations	
3.3a	Rigidity- Neck		4.6	Painful OFF-state dystonia	

MDS-UPDRS	Cutoffs
<b>Part 1</b> <i>Non-Motor EDL</i>	Mild: 1-10 Moderate: 11 -21 Severe: ≥22
<b>Part 2</b> <i>Motor EDL</i>	Mild: 1 – 12 Moderate: 13 – 29 Severe: ≥30
<b>Part 3</b> <i>Motor examination</i>	Mild: 1 – 32 Moderate: 33 – 58 Severe: ≥59
<b>Part 4</b> <i>Motor complications</i>	Mild: 1 – 4 Moderate: 5 – 12 Severe: ≥13



# NMS- Quest

29 domande con  
risposta dicotomica

	Yes	No		Yes	No
1. Dribbling of saliva during the daytime <u>NIGHT</u> .....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16. Feeling sad, 'low' or 'blue' .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Loss or change in your ability to taste or smell .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. Feeling anxious, frightened or panicky .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Difficulty swallowing food or drink or problems with choking .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	18. Feeling less interested in sex or more interested in sex .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Vomiting or feelings of sickness (nausea) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	19. Finding it difficult to have sex when you try .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Constipation (less than 3 bowel movements a week) or having to strain to pass a stool (faeces) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	20. Feeling light headed, dizzy or weak standing from sitting or lying .....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6. Bowel (fecal) incontinence .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	21. Falling .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Feeling that your bowel emptying is incomplete after having been to the toilet .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. Finding it difficult to stay awake during activities such as working, driving or eating .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. A sense of urgency to pass urine makes you rush to the toilet .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. Difficulty getting to sleep at night or staying asleep at night .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Getting up regularly at night to pass urine .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	24. Intense, vivid dreams or frightening dreams .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Unexplained pains (not due to known conditions such as arthritis) .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Talking or moving about in your sleep as if you are 'acting' out a dream .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Unexplained change in weight (not due to change in diet) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	26. Unpleasant sensations in your legs at night or while resting, and a feeling that you need to move ...	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. Problems remembering things that have happened recently or forgetting to do things .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	27. Swelling of your legs .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Loss of interest in what is happening around you or doing things .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. Excessive sweating .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			29. Double vision .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>

# NMS- Quest

	Yes	No		Yes	No
1. Dribbling of saliva during the daytime <u>NIGHT</u> .....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16. Feeling sad, 'low' or 'blue' .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Loss of interest in what is happening around you or doing things .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. Feeling nervous or jittery .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Dribbling of saliva during the daytime <u>NIGHT</u> .....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	18. Feeling dizzy .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Loss or change in your ability to taste or smell .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	19. Feeling tired .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Difficulty swallowing food or drink or problems with choking .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	20. Feeling hot or cold .....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6. Difficulty swallowing food or drink or problems with choking .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	21. Feeling lightheaded .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Difficulty swallowing food or drink or problems with choking .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. Difficulty getting to sleep at night or staying asleep at night .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. A sense of urgency to pass urine makes you rush to the toilet .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. Intense, vivid dreams or frightening dreams .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Getting up regularly at night to pass urine .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	24. Talking or moving about in your sleep as if you are 'acting' out a dream .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Unexplained pains (not due to known conditions such as arthritis) .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Unpleasant sensations in your legs at night or while resting, and a feeling that you need to move .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Unexplained change in weight (not due to change in diet) .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	26. Swelling of your legs .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12. Problems remembering things that have happened recently or forgetting to do things .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	27. Excessive sweating .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Loss of interest in what is happening around you or doing things .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	28. Double vision .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14. After having been to the toilet .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>	29. Double vision .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15. Such as working, driving or eating .....	<input type="checkbox"/>	<input checked="" type="checkbox"/>			

# NMSS (non motor symptoms scale)

## Scala di valutazione dei sintomi non motori per la malattia di Parkinson

Numero ID del paziente: \_\_\_\_\_ Iniziali: \_\_\_\_\_ Et : \_\_\_\_\_

Sintomi valutati nell'ultimo mese. Ogni sintomo ha un punteggio assegnato in base a:

**Gravit :** 0 = Nessuna, 1 = Lieve: sintomi presenti ma causano poco disagio o disturbo al paziente; 2 = Moderata: qualche disagio o disturbo al paziente; 3 = Grave: principale fonte di disagio o disturbo al paziente.

**Frequenza:** 1 = Raramente (<1/ settimana); 2 = Spesso (1/ settimana); 3 = Frequente (pi  volte alla settimana); 4 = Molto frequente (giornaliero o per tutto il tempo)

A ciascun dominio sar  attribuito un diverso rilievo. Le risposte S / No non sono incluse nel calcolo finale frequenza x gravit  (nelle domande della scala   incluso un testo tra parentesi come aiuto esplicativo).

### Domino 1: Cardiovascolare, incluse le cadute

	Gravit�	Frequenza	Frequenza x Gravit�
1. Il paziente prova una sensazione di testa vuota, vertigini, debolezza quando dalla posizione seduta o sdraiata assume la posizione ortostatica?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Il paziente cade a causa di uno svenimento o di una perdita di coscienza?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

### Domino 2: Sonno/astenia

	Gravit�	Frequenza	Frequenza x Gravit�
3. Il paziente si assopisce o si addormenta involontariamente durante le attivit� diurne? (Per esempio, durante le conversazioni, durante i pasti, o mentre guarda la televisione o legge)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. L'astenia (la stanchezza) o la mancanza di energia (e non la lentezza) limitano il paziente nelle attivit� diurne?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Il paziente ha difficolt� ad addormentarsi o a mantenere il sonno?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Il paziente presenta il bisogno di muovere le gambe o un'irrequietezza nelle gambe che migliora con il movimento quando rimane inattivo seduto o sdraiato?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

### Domino 3: Umore/cognizione

	Gravit�	Frequenza	Frequenza x Gravit�
7. Il paziente ha perso interesse per l'ambiente circostante?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Il paziente ha perso interesse nel fare le cose o manca di motivazione per avviare nuove attivit�?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Il paziente si sente nervoso, preoccupato o spaventato senza alcun motivo apparente?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Il paziente appare triste o depresso o ha riferito tali emozioni?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Il paziente ha l'umore appiattito senza i normali "alti" e "bassi"?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Il paziente ha difficolt� a trovare piacevoli le sue abituali attivit� o riferisce che non risultano pi� piacevoli?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

### Domino 4: Dispercezioni/Allucinazioni

	Gravit�	Frequenza	Frequenza x Gravit�
13. Il paziente riferisce di vedere cose che non ci sono?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Il paziente ha convinzioni che non sono vere? (Per esempio, di essere danneggiato, derubato o tradito)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Il paziente presenta visione doppia? (Due oggetti reali distinti e non una visione offuscata)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

### Domino 5: Attenzione/Memoria

	Gravit�	Frequenza	Frequenza x Gravit�
16. Il paziente ha problemi a mantenere la concentrazione durante le attivit�? (Ad esempio, mentre legge o mentre parla)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Il paziente dimentica cose che gli sono state dette da poco tempo o eventi accaduti negli ultimi giorni?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Il paziente dimentica di fare le cose? (Per esempio, di assumere i farmaci o spegnere gli elettrodomestici?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

### Domino 6: Tratto gastrointestinale

	Gravit�	Frequenza	Frequenza x Gravit�
19. Il paziente presenta scialorrea durante il giorno?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Il paziente ha difficolt� a deglutire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Il paziente soffre di stitichezza? (defecazione < 3 volte/settimana)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

### Domino 7: Funzione urinaria

	Gravit�	Frequenza	Frequenza x Gravit�
22. Il paziente ha difficolt� a trattenere l'urina? (Urgenza)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Il paziente necessita di svuotare la vescica entro 2 ore dall'ultima minzione? (Frequenza)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Il paziente deve alzarsi regolarmente di notte per urinare? (Nicturia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

### Domino 8: Attivit  sessuale

	Gravit�	Frequenza	Frequenza x Gravit�
25. Il paziente ha un interesse alterato per il sesso? (Si purga di sottolineare se molto aumentato o molto diminuito)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Il paziente ha problemi nel fare sesso?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

### Domino 9: Vari

	Gravit�	Frequenza	Frequenza x Gravit�
27. Il paziente soffre di dolore non spiegato da altre condizioni note? (� correlato ad assunzione di farmaci o � alleviato da farmaci antiparkinsoniani?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Il paziente riferisce un cambiamento nella capacit� gustative o olfattive?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Il paziente riferisce un recente cambiamento di peso (non correlato alla dieta)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Il paziente soffre di sudorazione eccessiva (non correlata alla stagione calda)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PUNTEGGIO:

PUNTEGGIO TOTALE:

Sviluppato da International PD Non Motor Group

Contatti: ray.chaudhuri@uhl.nhs.uk or alison.fortes@uhl.nhs.uk

Contatto (per la versione italiana): ifaria.cova@unimi.it



## Scala di valutazione dei sintomi non motori per la malattia di Parkinson

Numero ID del paziente: \_\_\_\_\_ Iniziali: \_\_\_\_\_ Età: \_\_\_\_\_

Sintomi valutati nell'ultimo mese. Ogni sintomo ha un punteggio assegnato in base a:

**Gravità:** 0 = Nessuna, 1 = Lieve: sintomi presenti ma causano poco disagio o disturbo al paziente; 2 = Moderata: qualche disagio o disturbo al paziente; 3 = Grave: principale fonte di disagio o disturbo al paziente.

**Frequenza:** 1 = Raramente (<1/ settimana); 2 = Spesso (1/ settimana); 3 = Frequente (più volte alla settimana); 4 = Molto frequente (giornaliero o per tutto il tempo)

A ciascun dominio sarà attribuito un diverso rilievo. Le risposte Sì/ No non sono incluse nel calcolo finale frequenza x gravità (nelle domande della scala è incluso un testo tra parentesi come aiuto esplicativo).

### Dominio 1: Cardiovascolare, incluse le cadute

- |  | <u>Gravità</u>           | <u>Frequenza</u>         | <u>Frequenza<br/>x Gravità</u> |
|--|--------------------------|--------------------------|--------------------------------|
| 1. Il paziente prova una sensazione di testa vuota, vertigini, debolezza quando dalla posizione seduta o sdraiata assume la posizione ortostatica? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |
| 2. Il paziente cade a causa di uno svenimento o di una perdita di coscienza?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>       |

PUNTEGGIO:

### Dominio 2: Sonno

3. Il paziente si addormenta con difficoltà?  
4. L'astenia (la fatica) limitano il paziente?  
5. Il paziente ha difficoltà a rimanere addormentato?  
6. Il paziente si sveglia di notte?  
7. Il paziente si sveglia di notte con le gambe che si addormentano?  
8. Il paziente si sveglia di notte con le gambe che si addormentano?

PUNTEGGIO:

### Dominio 3: Umore/cognizione

7. Il paziente ha perso interesse per l'ambiente circostante?  
8. Il paziente ha perso interesse nel fare le cose o manca di motivazione per avviare nuove attività?  
9. Il paziente si sente nervoso, preoccupato o spaventato senza alcun motivo apparente?  
10. Il paziente appare triste o depresso o ha riferito tali emozioni?  
11. Il paziente ha l'umore appiattito senza i normali "alti" e "bassi"?  
12. Il paziente ha difficoltà a trovare piacevoli le sue abituali attività o riferisce che non risultano più piacevoli?

PUNTEGGIO:

### Dominio 4: Dispercezioni/Allucinazioni

- |  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
| 13. Il paziente riferisce di vedere cose che non ci sono?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Il paziente ha convinzioni che non sono vere? (Per esempio, di essere danneggiato, derubato o tradito) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Il paziente presenta visione doppia? (Due oggetti reali distinti e non una visione offuscata)          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

PUNTEGGIO:

### Dominio 5: Attenzione/Memoria

- |  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
| 16. Il paziente ha problemi a mantenere la concentrazione durante le attività? (Ad esempio, mentre legge o mentre parla) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Il paziente dimentica cose che gli sono state dette da poco tempo o eventi accaduti negli ultimi giorni?             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Il paziente dimentica di fare le cose? (Per esempio, di assumere i farmaci o spegnere gli elettrodomestici?)         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

PUNTEGGIO:

### Dominio 6: Tratto gastrointestinale

- |  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
| 19. Il paziente presenta scialorrea durante il giorno?                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Il paziente ha difficoltà a deglutire?                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. Il paziente soffre di stitichezza? (defecazione < 3 volte/settimana) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

PUNTEGGIO:

- |   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|
| 7. Il paziente ha perso interesse per l'ambiente circostante?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Il paziente ha perso interesse nel fare le cose o manca di motivazione per avviare nuove attività?                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Il paziente si sente nervoso, preoccupato o spaventato senza alcun motivo apparente?                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Il paziente appare triste o depresso o ha riferito tali emozioni?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Il paziente ha l'umore appiattito senza i normali "alti" e "bassi"?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Il paziente ha difficoltà a trovare piacevoli le sue abituali attività o riferisce che non risultano più piacevoli? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

PUNTEGGIO:

- |  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
| 30. Il paziente soffre di sudorazione eccessiva (non correlata alla stagione calda)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|

PUNTEGGIO:

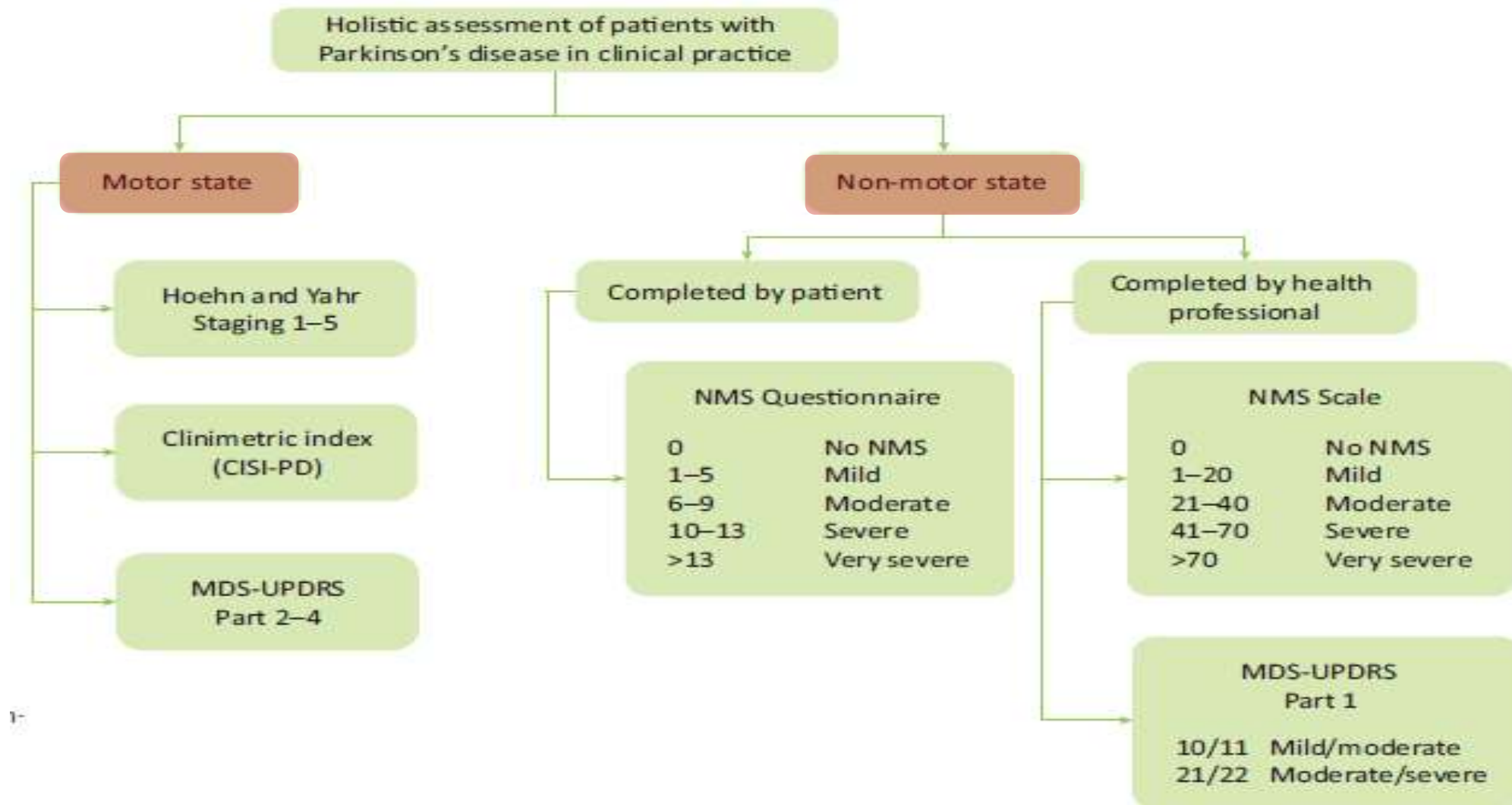
PUNTEGGIO TOTALE:

Sviluppato da International PD Non Motor Group

Contatti: ray.chaudhuri@uhl.nhs.uk or alison.forbes@uhl.nhs.uk

Contatto (per la versione italiana): ilaria.cova@unimi.it

# Parkinson: STADIAZIONE



1-

# Conclusione

- 1) *Clinica → sintomi motori e non motori (QoL)*
- 2) *Fluttuazioni motorie e non motorie*
  - *impatto su QoL – ADL*
  - *gestione terapia (orari di assunzione, alimentazione ed assorbimento, ciclo sonno/veglia)*
- 3) *Stadiazione clinica → H&Y ..... score motori (UPDRS III) e non motori (NMSS)*