

# #Characterization and quantification of freezing of gait in Parkinson's disease\_2015

Freezing most time when turning, step initiation, space constraints, stress or distraction

Duration of FOG could be between 2s to several minutes

Category of FOG related to its duration:

<10s --> 1                      10s<x<30s --> 2                      >30s --> 3

The most common data is referred to Percent Time [n°/time]

Events immediately before FOG could be:

- cadence of gait rise

- incomplete shifting of the centre of pressure from one foot to the other

- decrease stride length

- start hesitation in the first three steps

- tapping on table more frequency (?)

FOG could be caused by cognitive overload during concomitant cognitive and motor tasks

Automatic detection can be lead using time-frequency methods and pathological threshold

FOG has similarities with perturbations of rhythmic movements of upper limbs, lower limbs and orofacial area

# #Instruments for the Assessment fo Posture and Gaint in PD\_2016

Scoring is obviously subjective

12 rating scales --> only 3 are recommended or suggested:

- PIGD --> base on 5 UPDRS items relevant ot gait and postural instability, not include an adequate rating of freezing of gait

- RSGE --> 21 items in subgroups, high internal consistency and is recommended to use subscale scores

- TINETTI --> has 2 subscales: balance and gait tests

Specific task delivery vary between scales and all of them have lack sufficient details because they are primarily address ton non-PD-specific constructs

No scale for all purposes(gait, balance, posture) --> need for assess them simultaneously, but different score obtained for construt of tests

Questionnaires, for freezing, NFOGQ

## #Monitoring of PD 2016

Application of passive single sensor-based devices for PD

Clinical assessment are challeging and restrictive --> WTCD may obtain optimal management (variationa and stress reduced) and lead to comprehensive picture of patient with 1 assessment

Motor symptoms measurement are accurated and sleep is correlated with movements

Fall detection are 80% accurate with actual systems

Micro features are better than Macro features for predicting falls (even if ther's nees for algorithm refinement)

Free-living assessment appears to discriminate pathology better than testing in laboratory (because of stress of tests)

We could use WTCD monitoring as ambulatory activity (in fact, a diary)

In Free-living testing, need for attention to threshold (#steps or time of walking) and to sensor configuration (it is subjective) and external factor

Micro-level to enhance diagnostics, measure efficacy of intervention and prediction

Macro-level reflect the global burden of disease and impact of theraphy