

Dear Study Participant,

Thanks to your commitment to this three-year longitudinal study we can report two major findings and some preliminary results:

1. The dual syndrome hypothesis is a well-accepted and influential theory about cognitive decline in Parkinson's disease. This theory proposes two distinct cognitive syndromes. One of those syndromes is more predictive of cognitive decline and dementia than the other.

With the help of the MRI scans that you participated in, we were able to identify for the first time changes in distinct regional brain networks associated with each of the two syndromes.

Dr. Stefan Lang, trainee in Dr. Oury Monchi's lab was awarded the Junior Award of the Parkinson's Disease and Movement Disorders Society in 2018 for these findings.

The study is published in the academic journal *Movement Disorders*.

2. In collaboration with Dr. Zahinoor Ismail we were able to show for the first time, that a short questionnaire (The Mild Behavioral Impairment-Check List) is linked to cognitive deficits and brain structural changes in Parkinson's disease.

This two-page questionnaire with questions about subtle changes in mood or personality designed for people older than 50 is one of the two questionnaires that a relative or close friend had to fill out about you.

If this result can be confirmed longitudinally, it could change clinical practice, as it would allow for better identification of neuropsychiatric symptoms and the early and easy detection of incipient cognitive decline.

(This article is in press in the Academic Journal *Neurology* and has been selected for a highlight.)

3. Preliminary results indicate that certain changes in the alpha-synuclein gene are associated with specific cognitive deficits, particularly attention and memory, as well as changes in brain activity.

These results have been presented at international conferences.

Please check our websites (pcanlab.ca, capriresearch.org) often for updates!

We have some work to do on the website, but we are planning to have the abstracts of the publications added very soon.

***Thank you very much for your contribution to our Parkinson's disease research.
We could not do it without you!***